GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 22:25:59 ; Search time 122.678 Seconds
(without alignments)
1264.207 Million cell updates/sec

Title: US-10-762-159-125
Perfect score: 2198
Sequence: 1 MNKLLCCALVFLDISIKWTT.....QKLFLEMIGNQVQSVKISCL 401

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2198	100.0	401	2	AAW38345	Aaw38345 Human ost
2	2198	100.0	401	3	AAY43400	Aay43400 Osteoprot
3	2198	100.0	401	4	AAB66976	Aab66976 Human OPG
4	2198	100.0	401	5	ABG71823	Abg71823 Wild type
5	2198	100.0	401	6	ABP55109	Abp55109 Human ost
6	2198	100.0	401	6	AAE34363	Aae34363 Human ost
7	2198	100.0	401	7	ADD01627	Add01627 Human ost
8	2198	100.0	401	8	ADM28813	Adm28813 Human ost
9	2193	99.8	400	6	ABU08820	Abu08820 Human ost
10	2193	99.8	401	5	ABG73895	Abg73895 Human OPG
11	2193	99.8	401	5	ABG73894	Abg73894 Human OPG
12	2192	99.7	401	2	AAY05742	Aay05742 Tumour ne
13	2192	99.7	401	2	AAW95030	Aaw95030 Tumour ne
14	2192	99.7	401	2	AAW83926	Aaw83926 Human FTH
15	2192	99.7	401	3	AAB18715	Aab18715 A human t
16	2192	99.7	401	4	AAB60570	Aab60570 Human TNF
17	2192	99.7	401	5	ABG73893	Abg73893 Human OPG
18	2192	99.7	401	6	AAE36245	Aae36245 Human TRA
19	2192	99.7	401	6	AAO31135	Aao31135 Human TRA
20	2192	99.7	401	7	ADD01625	Add01625 Human ost
21	2192	99.7	401	7	ADF16158	Adf16158 Human alb
22	2192	99.7	401	7	ADF16153	Adf16153 Human alb
23	2192	99.7	401	7	ADF16151	Adf16151 Human alb
24	2192	99.7	401	7	ADF15231	Adf15231 Human alb
25	2192	99.7	401	7	ADF16152	Adf16152 Human alb
26	2192	99.7	401	7	ADF16154	Adf16154 Human alb
27	2192	99.7	401	7	ADF16155	Adf16155 Human alb
28	2192	99.7	401	7	ADF16156	Adf16156 Human alb
29	2192	99.7	401	7	ADF15230	Adf15230 Human alb
30	2192	99.7	401	7	ADF15244	Adf15244 Human alb
31	2192	99.7	401	7	ADF16157	Adf16157 Human alb
32	2192	99.7	401	8	ADK82154	Adk82154 Human TRA
33	2192	99.7	986	7	ADF15016	Adf15016 Human alb
34	2192	99.7	986	7	ADF15030	Adf15030 Human alb
35	2190	99.6	401	5	ABG73890	Abg73890 Human OPG
36	2188	99.5	401	5	ABG73891	Abg73891 Human OPG
37	2187	99.5	401	2	AAR99925	Aar99925 Full leng
38	2187	99.5	401	2	AAW53239	Aaw53239 Human OCI
39	2187	99.5	401	3	AAY88622	Aay88622 Osteoclas
40	2187	99.5	401	6	ABP70997	Abp70997 Human ost
41	2187	99.5	401	7	ADD37427	Add37427 Human ost
42	2187	99.5	401	8	ADQ68056	Adq68056 Human ost
43	2184	99.4	401	5	ABG73892	Abg73892 Human OPG
44	2183	99.3	401	2	AAW57635	Aaw57635 TR1 recep
45	2177	99.0	401	2	AAR99931	Aar99931 Mutated O

ALIGNMENTS

RESULT 1
AAW38345
ID AAW38345 standard; protein; 401 AA.
XX
AC AAW38345;
XX
DT 20-APR-1998 (first entry)
XX
DE Human osteoprotegerin.
XX
KW Osteoprotegerin; antibody; diagnosis; affinity purification;
KW recombinant production; transgenic animal; treatment; prevention;
KW antisense oligonucleotide; probe; detection; screening; human;
KW bone disease; osteoporosis; Paget's disease; hypercalcaemia;
KW hyperparathyroidism; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; bone necrosis; osteopaenia.
XX
OS Homo sapiens.
XX
PN DE19654610-A1.
XX
PD 26-JUN-1997.
XX
PF 20-DEC-1996; 96DE-01054610.
XX
PR 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
XX
PA (AMGE-) AMGEN INC.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
DR WPI; 1997-334271/31.
DR N-PSDB; AAT96063.
XX
PT Nucleic acid encoding osteoprotegerin - useful for treatment of diseases
PT involving excessive bone loss, e.g. osteoporosis.
XX
PS Claim 23; Page 109-111; 182pp; German.
XX
CC The present sequence is human osteoprotegerin (OPG). Anti-OPG antibodies
CC can be used in OPG diagnostic assays, and as affinity purification
CC materials. The OPG cDNA can be used to express recombinant OPG and to
CC generate transgenic animals. It can also be used to regulate the level of
CC OPG in mammals, specifically to increase OPG levels, however the use of
CC antisense sequences is also contemplated. Fragments of the cDNA can be
CC used as probes to detect OPG expressing cells and tissue, and to screen
CC cDNA libraries for related sequences. OPG can be used to treat or prevent

```
CC   bone diseases, specifically excessive bone loss, e.g. osteoporosis,
CC   Paget's disease, hypercalcaemia, hyperparathyroidism, rheumatoid
CC   arthritis, osteomyelitis, osteolytic metastases, periodontal bone loss,
CC   bone necrosis and osteopaenia
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2198;  DB 2;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-161;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 2
AAY43400
ID   AAY43400 standard; protein; 401 AA.
XX
AC   AAY43400;
XX
DT   28-JAN-2000  (first entry)
XX
DE   Osteoprotegrin protein sequence.
XX
KW   Osteoprotegrin; OPG; human; cardiovascular disease; occlusion;
KW   calcification; blood vessel; atherosclerosis; medial calcific sclerosis;
KW   Monckeberg's arteriosclerosis; therapy.
XX
OS   Homo sapiens.
XX
PN   WO9953942-A1.
XX
PD   28-OCT-1999.
XX
PF   21-APR-1999;   99WO-US008793.
XX
PR   23-APR-1998;   98US-00064832.
XX
PA   (AMGE-) AMGEN INC.
XX
PI   Simonet S,  Sarosi I;
XX
DR   WPI; 2000-013182/01.
DR   N-PSDB; AAZ37254.
XX
PT   Treating and preventing cardiovascular diseases, especially
PT   atherosclerosis and Monckeberg's arteriosclerosis.
XX
PS   Claim 9; Page 37-39; 43pp; English.
XX
CC   This sequence represents the human osteoprotegrin (OPG). The invention
CC   relates to a method of treating or preventing cardiovascular disease by
CC   administering OPG. The method can be used to treat and prevent
CC   cardiovascular diseases associated with occlusion and calcification of
CC   blood vessels, especially atherosclerosis or Monckeberg's
CC   arteriosclerosis, i.e. medial calcific sclerosis. Using OPG to treat or
CC   prevent cardiovascular diseases provides an alternative to invasive
CC   treatments. OPG can be used as a single therapeutic for prevention and
CC   treatment of both osteoporosis and cardiovascular diseases
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2198;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-161;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 3
AAB66976
ID   AAB66976 standard; protein; 401 AA.
XX
AC   AAB66976;
XX
DT   19-APR-2001  (first entry)
XX
DE   Human OPG.
XX
KW   Bone loss; osteoprotegerin; OPG; rheumatoid arthritis; hyperalgesia;
KW   multiple sclerosis; osteoporosis; osteomyelitis; asthma; inflammation;
KW   systemic lupus erythematosus; graft-versus-host disease; septic shock;
KW   acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;
KW   coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
KW   endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
KW   ischaemia; Parkinson's disease.
XX
OS   Homo sapiens.
XX
PN   WO200103719-A2.
XX
PD   18-JAN-2001.
XX
PF   07-JUL-2000; 2000WO-US018667.
```

XX
PR 09-JUL-1999; 99US-00350670.
PR 09-DEC-1999; 99US-00457647.
XX
PA (AMGE-) AMGEN INC.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M, Senaldi G;
XX
DR WPI; 2001-103031/11.
DR N-PSDB; AAF57838.
XX
PT Treating conditions leading to bone loss such as rheumatoid arthritis,
PT multiple sclerosis and asthma, comprises administering an osteoprotegerin
PT protein in conjunction with e.g. inhibitors of interleukin and tumor
PT necrosis factor alpha.
XX
PS Example 5; Fig 9; 316pp; English.
XX
CC The present invention relates to a method for treating conditions leading
CC to bone loss. The method comprises administering a purified and isolated
CC osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
CC in conjunction with other substances such as tumour necrosis factor-alpha
CC (TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors, ICE
CC modulators, fibroblast growth factor (FGF)1-10 modulators and/or platelet
CC activating factor (PAF) antagonists. The method is useful for treating
CC conditions leading to bone loss such as rheumatoid arthritis, multiple
CC sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
CC useful for treating inflammation, systemic lupus erythematosus (SLE) and
CC graft-versus-host disease (GvHD). Other diseases that can be treated
CC include acute pancreatitis, Alzheimer's disease, anorexia,
CC atherosclerosis, coronary conditions (e.g. myocardial infarction),
CC cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
CC inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
CC psoriasis and septic shock
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 4; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
```

RESULT 4
ABG71823
ID ABG71823 standard; protein; 401 AA.

XX
AC ABG71823;
XX
DT 14-APR-2003 (first entry)
XX
DE Wild type human OPG (osteoprotegerin) protein.
XX
KW RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG;
KW RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy;
KW osteoporosis; bone disease; human.
XX
OS Homo sapiens.
XX
PN WO200264782-A2.
XX
PD 22-AUG-2002.
XX
PF 08-FEB-2002; 2002WO-DK000090.
XX
PR 09-FEB-2001; 2001DK-00000214.
PR 09-FEB-2001; 2001US-0267843P.
PR 23-MAR-2001; 2001DK-00000498.
PR 23-MAR-2001; 2001US-0278320P.
XX
PA (MAXY-) MAXYGEN HOLDINGS LTD.
XX
PI Haaning JM, Halkier T;
XX
DR WPI; 2002-691592/74.
XX
PT Novel human receptor activator of NFkappaB (hRANK) or human
PT osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand
PT (RANKL) with equivalent binding affinity as hRANK or hOPG, useful for
PT treating osteoporosis.
XX
PS Example 6; Fig 2; 129pp; English.
XX
CC This invention relates to a novel mutant proteins having an amino acid
CC sequence that is different from and is at least about 70% identical to
CC the amino acid sequence of human receptor activator of NFkappaB (hRANK)
CC or human osteoprotegerin (hOPG), and which has a binding affinity to RANK
CC ligand (RANKL) that is at least as high as the binding affinity of hRANK
CC or hOPG to RANKL, as determined by functional competition assay. The
CC protein of the invention may have osteopathic activity and may act as a
CC RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity
CC inhibitor. The nucleotide sequence shown in the invention may be used in
CC gene therapy. The protein of the invention or fusion proteins comprising
CC this protein are useful as a pharmaceutical, and in the preparation of a
CC medicament for treating or preventing osteoporosis, or other bone
CC diseases or diseases associated with binding of RANKL to the RANK
CC receptor. A host cell containing a vector expressing the protein is
CC useful for producing a polypeptide having binding affinity to RANKL,
CC where the polypeptide comprises at least one N- or O-glycosylation site
CC and the host cell is a eukaryotic host cell capable of in vivo
CC glycosylation, and/or the polypeptide is subjected to conjugation to a
CC non-polypeptide moiety in vitro. The protein of the invention has
CC increased functional in vivo half-life and/or serum half-life compared to
CC hRANK or hOPG and has an improved binding affinity to RANKL compared to
CC the binding affinity of hRANK or hOPG to RANKL, as determined by a
CC functional competition assay. The present sequence represents the human
CC wild type OPG (osteoprotegerin) protein used to generate the mutant
CC proteins invention
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 5; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
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```
Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 5
ABP55109
ID   ABP55109 standard; protein; 401 AA.
XX
AC   ABP55109;
XX
DT   05-FEB-2003  (first entry)
XX
DE   Human osteoprotegerin receptor.
XX
KW   Osteoprotegerin; receptor; OPG; human; autoimmune disease;
KW   rheumatoid arthritis; diabetes; osteoarthritis; psoriasis;
KW   inflammatory bowel disease; transplant rejection; allergy;
KW   immunosuppressive; antirheumatic; antiarthritic; antidiabetic;
KW   antipsoriatic; immunosuppressive; antiallergic; antiinflammatory;
KW   osteopathic; antiulcer; monocyte.
XX
OS   Homo sapiens.
XX
PN   WO200276507-A2.
XX
PD   03-OCT-2002.
XX
PF   06-FEB-2002; 2002WO-US001238.
XX
PR   23-MAR-2001; 2001US-0278215P.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Grewal I;
XX
DR   WPI; 2003-058352/05.
DR   N-PSDB; ABV75843.
XX
PT   Stimulating mammalian monocytes by exposing to an OPG ligand polypeptide,
PT   useful for treating immune related disorders such as autoimmune disease,
PT   rheumatoid arthritis, diabetes, osteoarthritis, psoriasis, and allergy.
XX
PS   Disclosure; Fig 2B; 111pp; English.
XX
CC   The present sequence is the protein sequence of human osteoprotegerin
CC   (OPG) receptor. The invention provides methods of using OPG ligand (OPGL)
CC   to activate monocytes to secrete chemokines or cytokines by exposing a
CC   mammalian cell (in cell culture or in a mammal) to OPGL. Also provided
CC   are methods of using OPGL to treat conditions or diseases in mammals
CC   associated with, or resulting from lack of, or decreased, chemokine or
CC   cytokine secretion by monocytes. The invention also provides OPGL agonist
CC   and antagonist molecules to modulate immune activity. These may include
CC   antibodies to the OPG or RANK receptors. An antagonist comprising an anti
CC   -OPGL antibody, an anti-OPG receptor antibody, an anti-RANK receptor
CC   antibody, an OPG receptor immunoadhesin or a RANK receptor immunoadhesin
CC   is used in a claimed method of treating an immune-related condition,
CC   especially an autoimmune disease, rheumatoid arthritis, insulin dependent
CC   diabetes, osteoarthritis, inflammatory bowel disease (especially
CC   ulcerative colitis or Crohn's disease), psoriasis, transplant rejection
CC   or allergy
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2198;  DB 6;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-161;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 6
AAE34363
ID   AAE34363 standard; protein; 401 AA.
XX
AC   AAE34363;
XX
DT   14-MAY-2003  (first entry)
XX
DE   Human osteoprotegerin (OPG) protein.
XX
KW   Human; acute septic arthritis; osteomalacia; hyperparathyroidism;
KW   Cushing's syndrome; receptor activator of NF-kappa B; cancer; scurvy;
KW   bone formation; rickets; Langerhan's cell histiocytosis; gene therapy;
KW   monoostotic fibrous dysplasia; radiation therapy; spinal cord injury;
KW   RANK; Gaucher's disease; polyostotic fibrous dysplasia; OPG;
KW   osteoprotegerin.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .401
FT                   /note= "Mature OPG protein"
XX
PN   WO200292016-A2.
XX
PD   21-NOV-2002.
XX
```

PF 17-MAY-2002; 2002WO-US016002.
XX
PR 17-MAY-2001; 2001US-0291919P.
XX
PA (IMMV) IMMUNEX CORP.
XX
PI Dougall WC, Anderson DM;
XX
DR WPI; 2003-129220/12.
DR N-PSDB; AAD52597.
XX
PT Treating patients having e.g. acute septic arthritis, osteomalacia,
PT hyperparathyroidism, Cushing's syndrome or spinal cord injury, comprises
PT administering a receptor activator of NF-kappa B antagonist to increase
PT bone formation.
XX
PS Claim 1; Page 47-49; 52pp; English.
XX
CC The invention relates to a method of treating a patient having e.g. acute
CC septic arthritis, osteomalacia, hyperparathyroidism, Cushing's syndrome
CC or spinal cord injury. The method involves administering a receptor
CC activator of NF-kappa B (RANK) antagonist to stimulate an increase in the
CC rate for formation of new bone. RANK antagonist is capable of inhibiting
CC the ability of RANK to induce NF-kappa B. The method is useful for
CC stimulating bone formation, or for treating patients having acute septic
CC arthritis, osteomalacia (including rickets and scurvy),
CC hyperparathyroidism, Cushing's syndrome, monoostotic fibrous dysplasia,
CC polyostotic fibrous dysplasia, Gaucher's disease, Langerhan's cell
CC histiocytosis, spinal cord injury, patients requiring periodontal
CC reconstruction, or patients who have completed a course or radiation
CC therapy for cancer. The method is also useful for treating a patient who
CC is a prosthetic joint recipient, a bone graft recipient, or a ligament
CC graft recipient. The invention is useful in gene therapy. The present
CC sequence is human osteoprotegerin (OPG). OPG serves as human RANK
CC antagonist
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 6; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
```

RESULT 7
ADD01627

ID ADD01627 standard; protein; 401 AA.
XX
AC ADD01627;
XX
DT 01-JAN-2004 (first entry)
XX
DE Human osteoprotegerin amino acid sequence SEQ ID NO:4.
XX
KW fibrotic disease; cysteine-rich domain; osteoprotegerin; scleroderma;
KW antiinflammatory; gene therapy; human.
XX
OS Homo sapiens.
XX
PN WO2003084560-A2.
XX
PD 16-OCT-2003.
XX
PF 26-MAR-2003; 2003WO-EP050080.
XX
PR 10-APR-2002; 2002EP-00100364.
XX
PA (ISTF) ARS APPLIED RES SYSTEMS HOLDING NV.
XX
PI Power C, Plater-Zyberk C;
XX
DR WPI; 2003-804248/75.
DR N-PSDB; ADD01626.
XX
PT Use of a substance for the manufacture of a medicament for treating or
PT preventing fibrotic disease.
XX
PS Claim 1; SEQ ID NO 4; 68pp; English.
XX
CC The present invention describes a substance which is useful for the
CC manufacture of a medicament for treating or preventing fibrotic disease.
CC The substance comprises: (a) a polypeptide comprising a fully defined
CC sequence having 401 amino acids (see ADD01625 and ADD01627), or its amino
CC acids 22-401 or 22-194; (b) a polypeptide comprising 1, 2, 3 or 4
CC cysteine-rich domains of osteoprotegerin; (c) a mutein of (a)-(b) that is
CC encoded by a DNA sequence that hybridises to the complement of the DNA
CC sequence encoding (a)-(b) under moderately or highly stringent conditions
CC ; where the amino acid sequence has at least 40, 50, 60, 70, 80 or 90%
CC identity with (a)-(b); and where any changes in the amino acid sequence
CC are conservative amino acid substitutions to the amino acid sequences in
CC (a)-(b); or (d) a salt or an isoform, fused protein, functional
CC derivative, active fraction or circularly permutated derivative of (a)-
CC (c). Also described: (1) a polypeptide comprising the 401-amino acid
CC sequence and one, two, three or four cysteine-rich domains of
CC osteoprotegerin; and (2) a method for treating or preventing a fibrotic
CC disease, particularly scleroderma. The substance has antiinflammatory
CC activity, and can be used in gene therapy. A vector or cell comprising
CC the nucleic acid molecule encoding a polypeptide of the invention can be
CC used for inducing or enhancing the endogenous production of the
CC polypeptide in a cell for the preparation of a medicament for treating or
CC preventing a fibrotic disease, in particular scleroderma. The present
CC sequence represents a human osteoprotegerin amino acid sequence which is
CC used in the exemplification of the present invention.
XX
SQ Sequence 401 AA;

Query Match 100.0%; Score 2198; DB 7; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-161;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
                |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 8
ADM28813
ID   ADM28813 standard; protein; 401 AA.
XX
AC   ADM28813;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human osteoprotegerin, OPG.
XX
KW   Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /note= "Signal peptide"
FT   Protein         22. .401
FT                   /note= "Mature OPG, claimed in claim 24"
FT   Region          22. .201
FT                   /note= "Claimed in claim 32"
FT   Region          22. .194
FT                   /note= "Claimed in claim 32"
FT   Region          22. .189
FT                   /note= "Claimed in claim 32"
FT   Region          22. .185
FT                   /note= "Claimed in claim 32"
FT   Region          27. .401
FT                   /note= "Claimed in claim 35"
FT   Region          27. .194
FT                   /note= "Claimed in claim 35"
FT   Region          27. .189
FT                   /note= "Claimed in claim 35"
FT   Region          27. .185
FT                   /note= "Claimed in claim 35"
FT   Region          32. .401
FT                   /note= "Claimed in claim 25"
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;   99US-00405032.
XX
PR   22-DEC-1995;   95US-00577788.
PR   03-SEP-1996;   96US-00706945.
PR   20-DEC-1996;   96US-00771777.
PR   12-AUG-1998;   98US-00132985.
XX
PA   (BOYL/) BOYLE W J.
PA   (LACE/) LACEY D L.
PA   (CALZ/) CALZONE F J.
PA   (CHAN/) CHANG M.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
XX
DR   WPI; 2004-041572/04.
DR   N-PSDB; ADM28812.
XX
PT   Novel osteoprotegerin useful for treating conditions resulting in bone
PT   loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT   loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS   Claim 23; SEQ ID NO 125; 141pp; English.
XX
CC   The invention relates to a purified and isolated polypeptide having
CC   osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC   having amino terminus at residue 22, and 1-216 amino acids are deleted
CC   from carboxy terminus of human OPG polypeptide. Also included are an
CC   isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC   vector comprising OPG NA, a host cell transformed or transfected with the
CC   vector, a transgenic mammal comprising the cell, producing OPG, a
CC   polypeptide comprising an amino acid sequence of at least about 164 amino
CC   acids comprising four cysteine-rich domains characteristic of the
CC   cysteine rich domains of tumour necrosis factor receptor extracellular
CC   regions (and an activity of increasing bone density), an antibody (Ab) or
CC   its fragment which specifically binds to OPG, a composition comprising
CC   OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC   and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC   Ab is useful for detecting the presence of OPG in a biological sample
CC   which involves incubating the sample with Ab under conditions that allow
CC   binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC   assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC   useful for regulating the levels of OPG in an animal (human). The nucleic
CC   acid promotes an increasing in tissue level of OPG. OPG is useful for
CC   treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC   disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC   osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC   osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC   method further involves administering a substance chosen from bone
CC   morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC   inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC   parathyroid hormone related protein and their analogues, E series of
CC   prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC   useful for treating osteoporosis such as primary osteoporosis, endocrine
CC   osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC   hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC   , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC   osteoporosis due to immobilisation of extremities, hypercalcaemia
CC   resulting from solid tumours and haematologic malignancies (multiple
CC   myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC   hypercalcaemia associated with hyperthyroidism and renal function
CC   disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC   death. The present sequences is an OPG protein (or fragment).
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2198;  DB 8;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-161;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
```

```
Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
```

RESULT 9
ABU08820
ID ABU08820 standard; protein; 400 AA.
XX
AC ABU08820;
XX
DT 13-AUG-2003 (first entry)
XX
DE Human osteoprotegerin protein.
XX
KW Human; osteoprotegerin; endothelial morphogenesis; capillary formation.
XX
OS Homo sapiens.
XX
PN US2003022834-A1.
XX
PD 30-JAN-2003.
XX
PF 09-MAY-2002; 2002US-00142658.
XX
PR 10-MAY-2001; 2001US-0290230P.
XX
PA (MALY/) MALYANKAR U M.
PA (SCAT/) SCATENA M.
PA (GIAC/) GIACHELLI C M.
XX
PI Malyankar UM, Scatena M, Giachelli CM;
XX
DR WPI; 2003-479494/45.
DR N-PSDB; ABX93089.
XX
PT Promoting endothelial morphogenesis for promoting formation of blood
PT vessels, e.g. capillaries, in vivo in an area of damaged mammalian heart
PT muscle, involves providing osteoprotegerin to one or more endothelial
PT cells.
XX
PS Claim 3; Page 9-10; 15pp; English.
XX
CC This invention relates to a novel method for promoting endothelial
CC morphogenesis, comprises providing osteoprotegerin to one or more
CC endothelial cells. The invention also discloses an implantable medical
CC device comprising a device body and a layer attached to a surface of the
CC device body. The layer comprises a molecule such as osteoprotegerin or a
CC nucleic acid molecule encoding osteoprotegerin, where the device is
CC adapted to be completely or partially implanted into an animal body. The
CC method of the invention is useful for promoting in vivo endothelial
CC morphogenesis, such as the formation of capillaries which are formed in
CC tissue (e.g. heart tissue) adjacent to an implanted medical device or the
CC formation of an endothelial lining in a blood vessel, an artificial or
CC natural blood vessel. The method is also useful for promoting endothelial
CC morphogenesis in vitro. The implanted medical device is useful for
CC promoting endothelial morphogenesis in any situation, e.g. promotion of
CC blood vessel growth in and around damaged heart muscle. The implanted
CC medical device promotes the growth of blood vessels in the surrounding
CC tissue, thereby reducing or preventing the formation of a collagenous
CC capsule around the implanted medical device and foreign body reaction.
CC The method is useful for promoting formation of blood vessels in vivo
CC such as in an area of mammalian heart muscle that has been damaged, such
CC as by reduced blood flow resulting from heart attack. The present
CC sequence represents the human Osteoprotegerin protein which is used in
CC the method of the invention to promote endothelial morphogenesis
XX
SQ Sequence 400 AA;

Query Match 99.8%; Score 2193; DB 6; Length 400;
Best Local Similarity 100.0%; Pred. No. 6.9e-161;
Matches 400; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 NKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTV 61
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 NKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTV 60

Qy         62 CAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKH 121
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 CAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKH 120

Qy        122 RSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 181
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 RSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 180

Qy        182 DNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIK 241
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 DNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIK 240

Qy        242 RQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMES 301
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 RQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMES 300

Qy        302 LPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTV 361
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTV 360

Qy        362 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 400
```

RESULT 10
ABG73895
ID ABG73895 standard; protein; 401 AA.
XX
AC ABG73895;
XX
DT 14-APR-2003 (first entry)
XX
DE Human OPG (osteoprotegerin) K108N protein mutant.
XX
KW RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG;
KW RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy;
KW osteoporosis; bone disease; human; mutant; mutein; K108N.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 108
FT /note= "Wild type Lys substituted by Asn"
XX
PN WO200264782-A2.
XX
PD 22-AUG-2002.
XX
PF 08-FEB-2002; 2002WO-DK000090.
XX

```
PR   09-FEB-2001; 2001DK-00000214.
PR   09-FEB-2001; 2001US-0267843P.
PR   23-MAR-2001; 2001DK-00000498.
PR   23-MAR-2001; 2001US-0278320P.
XX
PA   (MAXY-) MAXYGEN HOLDINGS LTD.
XX
PI   Haaning JM,  Halkier T;
XX
DR   WPI; 2002-691592/74.
XX
PT   Novel human receptor activator of NFkappaB (hRANK) or human
PT   osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand
PT   (RANKL) with equivalent binding affinity as hRANK or hOPG, useful for
PT   treating osteoporosis.
XX
PS   Claim 90; Page; 129pp; English.
XX
CC   This invention relates to a novel mutant proteins having an amino acid
CC   sequence that is different from and is at least about 70% identical to
CC   the amino acid sequence of human receptor activator of NFkappaB (hRANK)
CC   or human osteoprotegerin (hOPG), and which has a binding affinity to RANK
CC   ligand (RANKL) that is at least as high as the binding affinity of hRANK
CC   or hOPG to RANKL, as determined by functional competition assay. The
CC   protein of the invention may have osteopathic activity and may act as a
CC   RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity
CC   inhibitor. The nucleotide sequence shown in the invention may be used in
CC   gene therapy. The protein of the invention or fusion proteins comprising
CC   this protein are useful as a pharmaceutical, and in the preparation of a
CC   medicament for treating or preventing osteoporosis, or other bone
CC   diseases or diseases associated with binding of RANKL to the RANK
CC   receptor. A host cell containing a vector expressing the protein is
CC   useful for producing a polypeptide having binding affinity to RANKL,
CC   where the polypeptide comprises at least one N- or O-glycosylation site
CC   and the host cell is a eukaryotic host cell capable of in vivo
CC   glycosylation, and/or the polypeptide is subjected to conjugation to a
CC   non-polypeptide moiety in vitro. The protein of the invention has
CC   increased functional in vivo half-life and/or serum half-life compared to
CC   hRANK or hOPG and has an improved binding affinity to RANKL compared to
CC   the binding affinity of hRANK or hOPG to RANKL, as determined by a
CC   functional competition assay. The present sequence represents a mutant
CC   human OPG (osteoprotegerin) protein of the invention. Note; This sequence
CC   is not shown in the specification but was created by the indexer from the
CC   wild type sequence shown in ABG71823 and the information given in claim
CC   90
XX
SQ   Sequence 401 AA;

  Query Match             99.8%;  Score 2193;  DB 5;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 6.9e-161;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              |||||||||||||||||||||||||||||||||||||||||||| ||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECNEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 11
ABG73894
ID   ABG73894 standard; protein; 401 AA.
XX
AC   ABG73894;
XX
DT   14-APR-2003  (first entry)
XX
DE   Human OPG (osteoprotegerin) T71A protein mutant.
XX
KW   RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG;
KW   RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy;
KW   osteoporosis; bone disease; human; mutant; mutein; T71A.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 71
FT                   /note= "Wild type Thr substituted by Ala"
XX
PN   WO200264782-A2.
XX
PD   22-AUG-2002.
XX
PF   08-FEB-2002; 2002WO-DK000090.
XX
PR   09-FEB-2001; 2001DK-00000214.
PR   09-FEB-2001; 2001US-0267843P.
PR   23-MAR-2001; 2001DK-00000498.
PR   23-MAR-2001; 2001US-0278320P.
XX
PA   (MAXY-) MAXYGEN HOLDINGS LTD.
XX
PI   Haaning JM,  Halkier T;
XX
DR   WPI; 2002-691592/74.
XX
PT   Novel human receptor activator of NFkappaB (hRANK) or human
PT   osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand
PT   (RANKL) with equivalent binding affinity as hRANK or hOPG, useful for
PT   treating osteoporosis.
XX
PS   Claim 89; Page; 129pp; English.
XX
CC   This invention relates to a novel mutant proteins having an amino acid
CC   sequence that is different from and is at least about 70% identical to
CC   the amino acid sequence of human receptor activator of NFkappaB (hRANK)
CC   or human osteoprotegerin (hOPG), and which has a binding affinity to RANK
CC   ligand (RANKL) that is at least as high as the binding affinity of hRANK
CC   or hOPG to RANKL, as determined by functional competition assay. The
CC   protein of the invention may have osteopathic activity and may act as a
CC   RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity
CC   inhibitor. The nucleotide sequence shown in the invention may be used in
CC   gene therapy. The protein of the invention or fusion proteins comprising
CC   this protein are useful as a pharmaceutical, and in the preparation of a
CC   medicament for treating or preventing osteoporosis, or other bone
CC   diseases or diseases associated with binding of RANKL to the RANK
CC   receptor. A host cell containing a vector expressing the protein is
CC   useful for producing a polypeptide having binding affinity to RANKL,
CC   where the polypeptide comprises at least one N- or O-glycosylation site
CC   and the host cell is a eukaryotic host cell capable of in vivo
CC   glycosylation, and/or the polypeptide is subjected to conjugation to a
CC   non-polypeptide moiety in vitro. The protein of the invention has
CC   increased functional in vivo half-life and/or serum half-life compared to
```

```
CC   hRANK or hOPG and has an improved binding affinity to RANKL compared to
CC   the binding affinity of hRANK or hOPG to RANKL, as determined by a
CC   functional competition assay. The present sequence represents a mutant
CC   human OPG (osteoprotegerin) protein of the invention. Note; This sequence
CC   is not shown in the specification but was created by the indexer from the
CC   wild type sequence shown in ABG71823 and the information given in claim
CC   89
XX
SQ   Sequence 401 AA;

  Query Match             99.8%;  Score 2193;  DB 5;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 6.9e-161;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYADSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 12
AAY05742
ID   AAY05742 standard; protein; 401 AA.
XX
AC   AAY05742;
XX
DT   19-JUL-1999  (first entry)
XX
DE   Tumour necrosis factor receptor TR1.
XX
KW   Tumour necrosis factor receptor; TR1; osteoprotegerin; agonist;
KW   antagonist; screening; human; cancer; AIDS; Alzheimer's disease;
KW   inflammation; arthritis; septicaemia; autoimmune disease; psoriasis;
KW   inflammatory bowel disease; transplant rejection;
KW.  graft versus host disease; infection; stroke; ischaemia;
KW   acute respiratory disease syndrome; restenosis; brain injury;
KW   bone disease; atherosclerosis; therapy.
XX
OS   Homo sapiens.
XX
PN   EP911633-A1.
XX
PD   28-APR-1999.
XX
PF   02-OCT-1998;   98EP-00203332.
XX
PR   08-OCT-1997;   97US-0061334P.
XX
PA   (SMIK ) SMITHKLINE BEECHAM CORP.
XX
PI   Mcdonnell PC,  Young PR,  Zou J;
XX
DR   WPI; 1999-246560/21.
XX
PT   Identifying agonists and antagonists of tumor necrosis factor related
PT   receptors TR1, TR3 and TR5, and of ligand TL3, useful for treatment of
PT   cancer, AIDS, Alzheimer's disease, bone disease etc.
XX
PS   Disclosure; Page 10-12; 23pp; English.
XX
CC   The present sequence represents tumour necrosis factor receptor (TNFR)
CC   TR1, also known as osteoprotegerin. The invention relates to TNFR related
CC   polypeptides TR1, TR3 and TR5 (see AAY05742-44) and their ligand TL3 (see
CC   AAY05745). TR1, TR3, TR5 and TL3 are used in claimed methods of
CC   identifying agonists and antagonists, i.e. compounds that bind to the
CC   receptors or ligand, and which activate (agonist) or inhibit activation
CC   of (antagonists) TR1, TR3, TR5 or TL3. A screening kit for identifying
CC   agonists, antagonists, ligands, receptors, substrates, enzymes etc. for
CC   TR1, TR3, TR5 or TL3 polypeptides is provided. The agonists and
CC   antagonists are useful for treatment of chronic and acute inflammation,
CC   arthritis, septicaemia, autoimmune disease e.g. inflammatory bowel
CC   disease, psoriasis, transplant rejection, graft versus host disease,
CC   infection, stroke, ischaemia, acute respiratory disease syndrome,
CC   restenosis, brain injury, AIDS, bone diseases, cancer (e.g.
CC   lymphoproliferative disorders), atherosclerosis and Alzheimer's disease,
CC   etc., caused by imbalance of TR1, TR3, TR5 or TL3
XX
SQ   Sequence 401 AA;

  Query Match             99.7%;  Score 2192;  DB 2;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 8.3e-161;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              |||||||||||||||||||| |||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 13
AAW95030
ID   AAW95030 standard; protein; 401 AA.
XX
AC   AAW95030;
XX
DT   13-MAY-1999  (first entry)
XX
DE   Tumour necrosis factor receptor (TNF-R) related polypeptide TR1.
XX
KW   Tumour necrosis factor receptor; TNF-R; TR1; TR2; TL2; TL4; arthritis;
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KW   inflammation; septicemia; autoimmune disease; transplant rejection;
KW   graft vs. host disease; infection; stroke; ischemia; brain injury; AIDS;
KW   acute respiratory disease syndrome; restenosis, bone disease; cancer;
KW   athersclerosis; Alzheimer's disease.
XX
OS   Unidentified.
XX
PN   EP897114-A2.
XX
PD   17-FEB-1999.
XX
PF   04-JUN-1998;   98EP-00304424.
XX
PR   13-AUG-1997;   97US-0055513P.
PR   26-AUG-1997;   97US-0056980P.
PR   29-AUG-1997;   97US-0057550P.
XX
PA   (SMIK ) SMITHKLINE BEECHAM CORP.
XX
PI   Brigham-Burke MR,  Young PR;
XX
DR   WPI; 1999-134308/12.
XX
PT   Identifying agonists and antagonists to tumour necrosis factor receptor
PT   (TNF-R) related polypeptides (LR1, LR2, LT2 and LT4) - useful for
PT   treating stroke, Alzheimer's disease and AIDS.
XX
PS   Disclosure; Page 11-12; 18pp; English.
XX
CC   The invention relates to identifying agonists or antagonists to tumour
CC   necrosis factor receptor (TNF-R) related polypeptides (TR1 and TR2, TL2
CC   and TL4). The method comprises: (a) (i) contacting TR1 or TR2 with a
CC   candidate compound in the presence of TL2 or TL4; or (ii) contacting TL2
CC   or TL4 with a candidate compound in the presence of TR1 or TR2; and (b)
CC   assessing the ability of the candidate compound to compete with TR1 or
CC   TR2 binding to TL2 or TL4. TR and TL agonists and antagonists are useful
CC   for treating diseases caused by imbalance of TL or TR polypeptide levels,
CC   which cause: chronic and acute inflammation, arthritis, septicemia,
CC   autoimmune diseases, transplant rejection, graft vs. host disease,
CC   infection, stroke, ischemia, acute respiratory disease syndrome,
CC   restenosis, brain injury, AIDS, bone diseases, cancer, athersclerosis and
CC   Alzheimer's disease. The present sequence represents a TNF-R related
CC   polypeptide TR1
XX
SQ   Sequence 401 AA;

  Query Match             99.7%;  Score 2192;  DB 2;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 8.3e-161;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 14
AAW83926
ID   AAW83926 standard; protein; 401 AA.
XX
AC   AAW83926;
XX
DT   01-MAR-1999  (first entry)
XX
DE   Human FTHMA-070 protein.
XX
KW   FTHMA-070; human; neurological disorder; therapy; diagnosis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /label= Sig_peptide
FT   Protein         22. .401
FT                   /label= Mat_protein
XX
PN   WO9848051-A2.
XX
PD   29-OCT-1998.
XX
PF   17-APR-1998;   98WO-US007714.
XX
PR   18-APR-1997;   97US-0044746P.
PR   10-OCT-1997;   97US-0062017P.
XX
PA   (MILL-) MILLENNIUM BIOTHERAPEUTICS INC.
XX
PI   Mccarthy SA,  Holtzman D;
XX
DR   WPI; 1999-024021/02.
DR   N-PSDB; AAV69277.
XX
PT   New isolated human FTHMA-070 and T85 proteins - used to develop products
PT   for the diagnosis and therapy of disorders involving cellular processes,
PT   e.g. neuronal development.
XX
PS   Claim 8; Fig 1; 127pp; English.
XX
CC   This is the amino acid sequence of human FTHMA-070, a novel protein
CC   having homology to tumour necrosis factor receptor. The sequence was
CC   deduced from that of a cDNA clone (see AAV69277) isolated from a cardiac
CC   coronary artery smooth muscle cell library. FTHMA-070 nucleic acids and
CC   polypeptides of the invention are useful as modulating agents in
CC   regulating a variety of cellular processes. They can be used for
CC   identifying compounds which bind to or modulate the activity of the
CC   polypeptides (claimed). They can also be used in screening assays,
CC   detection assays (e.g. chromosomal mapping, tissue typing, forensic
CC   biology), predictive medicine (e.g. diagnostic assays, prognostic assays,
CC   monitoring clinical trials, and pharmacogenomics), and methods of
CC   treatment (e.g. therapeutic and prophylactic) e.g. for neurological
CC   disorders
XX
SQ   Sequence 401 AA;

  Query Match             99.7%;  Score 2192;  DB 2;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 8.3e-161;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
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                  ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
                  ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
                  ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
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Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
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Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
                  |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 15
AAB18715
ID   AAB18715 standard; protein; 401 AA.
XX
AC   AAB18715;
XX
DT   22-JAN-2001  (first entry)
XX
DE   A human tumour necrosis factor family receptor (TR1).
XX
KW   Human; tumour necrosis factor family receptor; TR1; tumour growth;
KW   cell proliferation; chlamydia infection; immunodeficiency; septic shock;
KW   T-cell mediated autoimmune disease; acquired immunodeficiency syndrome;
KW   AIDS; cerebral malaria; graft rejection; cytotoxicity; cachexia;
KW   apoptosis; inflammation; cancer; cardiovascular disease; angiogenesis;
KW   inflammatory disease; atherosclerosis; diabetes mellitus; allergy;
KW   neurological disorder; autoimmune disease; wound healing; bone formation;
KW   osteoporosis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /note= "signal peptide"
FT   Protein         22. .401
FT                   /note= "mature protein"
XX
PN   WO200054651-A2.
XX
PD   21-SEP-2000.
XX
PF   15-MAR-2000; 2000WO-US006592.
XX
PR   15-MAR-1999;   99US-0124489P.
PR   26-MAY-1999;   99US-0136248P.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Greene JM,  Fleischmann RD,  Ni J;
XX
DR   WPI; 2000-618858/59.
DR   N-PSDB; AAA75736.
XX
PT   Novel tumor necrosis factor family receptor for diagnosing and treating
PT   acquired immunodeficiency syndrome, cancer, cardiovascular diseases,
PT   inflammatory diseases and autoimmune diseases.
XX
PS   Claim 13; Fig 1A-B; 228pp; English.
XX
CC   The present sequence represents a human tumour necrosis factor family
CC   receptor (TR1) polypeptide. An agonist to the TR1 receptor is useful for
CC   inhibiting tumour growth, to stimulate human cellular proliferation, to
CC   regulate immune response and antiviral response, to protect against the
CC   effects of ionising radiations, to protect against chlamydia infections,
CC   to regulate growth, and to treat immunodeficiencies such as in human
CC   immunodeficiency virus (HIV). An antagonist to the TR1 receptor is useful
CC   for treating T-cell mediated autoimmune diseases, acquired
CC   immunodeficiency syndrome (AIDS), septic shock, cerebral malaria, graft
CC   rejection, cytotoxicity, cachexia, apoptosis, and inflammation. TR1
CC   polynucleotides and polypeptides, and TR1 agonists and antagonists are
CC   useful for treating cancers, cardiovascular diseases, inflammatory
CC   diseases, atherosclerosis, diabetes mellitus, neurological disorders,
CC   autoimmune diseases, for promoting angiogenesis, for treating allergy,
CC   for wound healing, for regulating bone formation and for treating
CC   osteoporosis
XX
SQ   Sequence 401 AA;

  Query Match             99.7%;  Score 2192;  DB 3;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 8.3e-161;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


Search completed: November 14, 2005, 23:11:59
Job time : 123.678 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 23:07:15 ; Search time 109.532 Seconds
(without alignments)
1451.594 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_401
Perfect score: 2085
Sequence: 1 ETFPPKYLHYDEETSHQLLC.....QKLFLEMIGNQVQSVKISCL 380

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867879 seqs, 418409474 residues

Total number of hits satisfying chosen parameters: 1867879

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
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8: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*
12: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
15: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
16: /cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
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22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2085	100.0	380	10	US-09-405-032-139	Sequence 139, App
2	2085	100.0	380	16	US-10-676-358-1	Sequence 1, Appli
3	2085	100.0	380	18	US-10-762-159-139	Sequence 139, App
4	2085	100.0	400	14	US-10-142-658-2	Sequence 2, Appli
5	2085	100.0	401	10	US-09-405-032-125	Sequence 125, App
6	2085	100.0	401	14	US-10-151-071-8	Sequence 8, Appli
7	2085	100.0	401	16	US-10-467-243-2	Sequence 2, Appli
8	2085	100.0	401	17	US-10-129-595-3	Sequence 3, Appli
9	2085	100.0	401	18	US-10-966-845-4	Sequence 4, Appli
10	2085	100.0	401	18	US-10-762-159-125	Sequence 125, App
11	2085	100.0	537	16	US-10-676-358-6	Sequence 6, Appli
12	2081	99.8	401	20	US-11-058-073-125	Sequence 125, App
13	2079	99.7	380	9	US-09-062-113-4	Sequence 4, Appli
14	2079	99.7	380	14	US-10-232-858-4	Sequence 4, Appli
15	2079	99.7	380	16	US-10-785-109-4	Sequence 4, Appli
16	2079	99.7	380	16	US-10-785-114-4	Sequence 4, Appli
17	2079	99.7	380	17	US-10-929-958-4	Sequence 4, Appli
18	2079	99.7	380	17	US-10-929-748-4	Sequence 4, Appli
19	2079	99.7	380	17	US-10-979-303-4	Sequence 4, Appli
20	2079	99.7	380	18	US-10-979-654-4	Sequence 4, Appli
21	2079	99.7	380	18	US-10-775-204-543	Sequence 543, App
22	2079	99.7	391	9	US-09-062-113-106	Sequence 106, App
23	2079	99.7	391	14	US-10-232-858-106	Sequence 106, App
24	2079	99.7	391	16	US-10-785-109-106	Sequence 106, App
25	2079	99.7	391	16	US-10-785-114-106	Sequence 106, App
26	2079	99.7	391	17	US-10-929-958-106	Sequence 106, App
27	2079	99.7	391	17	US-10-929-748-106	Sequence 106, App
28	2079	99.7	391	17	US-10-979-303-106	Sequence 106, App
29	2079	99.7	391	18	US-10-979-654-106	Sequence 106, App
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31	2079	99.7	401	13	US-10-066-209-1	Sequence 1, Appli
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33	2079	99.7	401	13	US-10-164-592-2	Sequence 2, Appli
34	2079	99.7	401	14	US-10-183-091-1	Sequence 1, Appli
35	2079	99.7	401	14	US-10-364-045-1	Sequence 1, Appli
36	2079	99.7	401	14	US-10-232-858-5	Sequence 5, Appli
37	2079	99.7	401	14	US-10-044-674-3	Sequence 3, Appli
38	2079	99.7	401	14	US-10-322-673-5	Sequence 5, Appli
39	2079	99.7	401	14	US-10-139-785-5	Sequence 5, Appli
40	2079	99.7	401	15	US-10-377-076-1	Sequence 1, Appli
41	2079	99.7	401	16	US-10-785-109-5	Sequence 5, Appli
42	2079	99.7	401	16	US-10-785-114-5	Sequence 5, Appli
43	2079	99.7	401	17	US-10-929-958-5	Sequence 5, Appli
44	2079	99.7	401	17	US-10-929-748-5	Sequence 5, Appli
45	2079	99.7	401	17	US-10-895-676-2	Sequence 2, Appli

ALIGNMENTS

```
RESULT 1
US-09-405-032-139
; Sequence 139, Application US/09405032
; Publication No. US20030207827A1
;  GENERAL INFORMATION:
;       APPLICANT: Amgen Inc.
;       TITLE OF INVENTION: OSTEOPROTEGERIN
;       NUMBER OF SEQUENCES: 168
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Amgen Inc.
;            STREET: 1840 Dehavilland Drive
;            CITY: Thousand Oaks
;            STATE: California
;            COUNTRY: United States
;            ZIP: 91320
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/405,032
;            FILING DATE: 24-Sep-1999
;            CLASSIFICATION: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Winter, Robert B.
;            REFERENCE/DOCKET NUMBER: A-378-CIP2
;  INFORMATION FOR SEQ ID NO: 139:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 380 amino acids
;            TYPE: amino acid
;            STRANDEDNESS: single
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
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;       SEQUENCE DESCRIPTION: SEQ ID NO: 139:
US-09-405-032-139

  Query Match           100.0%;  Score 2085;  DB 10;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
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Db        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        361 QKLFLEMIGNQVQSVKISCL 380


RESULT 2
US-10-676-358-1
; Sequence 1, Application US/10676358
; Publication No. US20040137074A1
; GENERAL INFORMATION:
;  APPLICANT: Nestec SA
;  TITLE OF INVENTION: Osteoprotegerin in Milk
;  FILE REFERENCE: 88265-6852
;  CURRENT APPLICATION NUMBER: US/10/676,358
;  CURRENT FILING DATE:  2003-10-02
;  PRIOR APPLICATION NUMBER: WO 2002 EP 02912
;  PRIOR FILING DATE: 2003-03-15
;  PRIOR APPLICATION NUMBER: EP 20010108414
;  PRIOR FILING DATE: 2001-04-03
;  NUMBER OF SEQ ID NOS: 7
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
;   LENGTH: 380
;   TYPE: PRT
;   ORGANISM: homo sapiens
US-10-676-358-1

  Query Match           100.0%;  Score 2085;  DB 16;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
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Db        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        361 QKLFLEMIGNQVQSVKISCL 380


RESULT 3
US-10-762-159-139
; Sequence 139, Application US/10762159
; Publication No. US20050221331A1
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, William J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  168
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  United States
;      ZIP:  91320
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/10/762,159
;      FILING DATE:  2004-JAN-20
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/132,985
;      FILING DATE:  1998-AUG-12
;      APPLICATION NUMBER:  08/771,777
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378-CIP
;  INFORMATION FOR SEQ ID NO:  139:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  380 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-10-762-159-139

  Query Match           100.0%;  Score 2085;  DB 18;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        361 QKLFLEMIGNQVQSVKISCL 380


RESULT 4
US-10-142-658-2
; Sequence 2, Application US/10142658
; Publication No. US20030022834A1
; GENERAL INFORMATION:
;  APPLICANT: Malyankar, Uriel M.
;  APPLICANT:  Scatena, Marta
;  APPLICANT:  Giachelli, Cecilia M.
;  TITLE OF INVENTION: METHODS AND DEVICES FOR PROMOTING ENDOTHELIAL MORPHOGENESIS
;  FILE REFERENCE: UWOTL118975
;  CURRENT APPLICATION NUMBER: US/10/142,658
;  CURRENT FILING DATE:  2002-05-09
;  PRIOR APPLICATION NUMBER: US 60/290,230
;  PRIOR FILING DATE: 2001-05-10
;  NUMBER OF SEQ ID NOS: 2
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 400
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-10-142-658-2

  Query Match           100.0%;  Score 2085;  DB 14;  Length 400;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         21 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 80

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         81 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 140

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        141 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 200

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        201 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 260

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        261 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 320

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        321 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 380

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        381 QKLFLEMIGNQVQSVKISCL 400


RESULT 5
US-09-405-032-125
; Sequence 125, Application US/09405032
; Publication No. US20030207827A1
;  GENERAL INFORMATION:
;       APPLICANT: Amgen Inc.
;       TITLE OF INVENTION: OSTEOPROTEGERIN
;       NUMBER OF SEQUENCES: 168
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Amgen Inc.
;            STREET: 1840 Dehavilland Drive
;            CITY: Thousand Oaks
;            STATE: California
;            COUNTRY: United States
;            ZIP: 91320
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/405,032
;            FILING DATE: 24-Sep-1999
;            CLASSIFICATION: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Winter, Robert B.
;            REFERENCE/DOCKET NUMBER: A-378-CIP2
;  INFORMATION FOR SEQ ID NO: 125:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 401 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 125:
US-09-405-032-125

  Query Match           100.0%;  Score 2085;  DB 10;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401
```

```
RESULT 6
US-10-151-071-8
; Sequence 8, Application US/10151071
; Publication No. US20030017151A1
; GENERAL INFORMATION:
;  APPLICANT: DOUGALL, William
;  APPLICANT:  ANDERSON, Dirk
;  TITLE OF INVENTION: THERAPEUTIC USES OF RANK ANTAGONISTS
;  FILE REFERENCE: 3277-A
;  CURRENT APPLICATION NUMBER: US/10/151,071
;  CURRENT FILING DATE:  2001-05-17
;  PRIOR APPLICATION NUMBER: 60/291,919
;  PRIOR FILING DATE: 2001-05-17
;  NUMBER OF SEQ ID NOS: 10
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 8
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-151-071-8

  Query Match            100.0%;  Score 2085;  DB 14;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 7
US-10-467-243-2
; Sequence 2, Application US/10467243
; Publication No. US20040132971A1
; GENERAL INFORMATION:
;  APPLICANT: Maxygen Holdings Ltd.
;  APPLICANT:  Haaning, Jesper Mortensen
;  APPLICANT:  Halkier, Torben
;  TITLE OF INVENTION: RANK LIGAND-BINDING POLYPEPTIDES
;  FILE REFERENCE: 0226wo310
;  CURRENT APPLICATION NUMBER: US/10/467,243
;  CURRENT FILING DATE:  2003-08-06
;  PRIOR APPLICATION NUMBER: DK PA 2001 00214
;  PRIOR FILING DATE: 2001-02-09
;  PRIOR APPLICATION NUMBER: US 60/267,843
;  PRIOR FILING DATE: 2001-02-09
;  PRIOR APPLICATION NUMBER: DK PA 2001 00498
;  PRIOR FILING DATE: 2001-03-23
;  PRIOR APPLICATION NUMBER: US 60/278,320
;  PRIOR FILING DATE: 2001-03-23
;  NUMBER OF SEQ ID NOS: 38
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-467-243-2

  Query Match            100.0%;  Score 2085;  DB 16;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 8
US-10-129-595-3
; Sequence 3, Application US/10129595
; Publication No. US20050031583A1
; GENERAL INFORMATION:
;  APPLICANT: Genentech, Inc. et al.
;  TITLE OF INVENTION: Uses of OPG Ligand to Modulate Immune Responses
;  FILE REFERENCE: P1830R1
;  CURRENT APPLICATION NUMBER: US/10/129,595
;  CURRENT FILING DATE:  2002-05-08
;  PRIOR APPLICATION NUMBER: US 60/278,215
;  PRIOR FILING DATE: 2001-03-23
;  NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 3
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapien
US-10-129-595-3

  Query Match            100.0%;  Score 2085;  DB 17;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 9
US-10-966-845-4
; Sequence 4, Application US/10966845
; Publication No. US20050143301A1
; GENERAL INFORMATION:
;  APPLICANT: Applied Research Systems ARS Holding N.V.
;  TITLE OF INVENTION: Use of osteoprotegerin for the treatment and/or prevention of fib
;  TITLE OF INVENTION:  disease
;  FILE REFERENCE: US 550 CIP
;  CURRENT APPLICATION NUMBER: US/10/966,845
;  CURRENT FILING DATE:  2004-10-15
;  PRIOR APPLICATION NUMBER: EP02100364.5
;  PRIOR FILING DATE: 2002-04-10
;  PRIOR APPLICATION NUMBER: PCT/EP03/50080
;  PRIOR FILING DATE: 2003-03-26
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-966-845-4

  Query Match           100.0%;  Score 2085;  DB 18;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 10
US-10-762-159-125
; Sequence 125, Application US/10762159
; Publication No. US20050221331A1
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, William J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  168
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  United States
;      ZIP:  91320
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/10/762,159
;      FILING DATE:  2004-JAN-20
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/132,985
;      FILING DATE:  1998-AUG-12
;      APPLICATION NUMBER:  08/771,777
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378-CIP
;  INFORMATION FOR SEQ ID NO:  125:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-10-762-159-125

  Query Match           100.0%;  Score 2085;  DB 18;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 11
US-10-676-358-6
; Sequence 6, Application US/10676358
; Publication No. US20040137074A1
; GENERAL INFORMATION:
;  APPLICANT: Nestec SA
;  TITLE OF INVENTION: Osteoprotegerin in Milk
;  FILE REFERENCE: 88265-6852
;  CURRENT APPLICATION NUMBER: US/10/676,358
;  CURRENT FILING DATE:  2003-10-02
;  PRIOR APPLICATION NUMBER: WO 2002 EP 02912
;  PRIOR FILING DATE: 2003-03-15
;  PRIOR APPLICATION NUMBER: EP 20010108414
;  PRIOR FILING DATE: 2001-04-03
;  NUMBER OF SEQ ID NOS: 7
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
;   LENGTH: 537
;   TYPE: PRT
;   ORGANISM: artificial
;   FEATURE:
;   OTHER INFORMATION: protein sequence including mature OPG
US-10-676-358-6

  Query Match             100.0%;  Score 2085;  DB 16;  Length 537;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-167;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        158 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 217

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        218 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 277

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        278 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 337

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        338 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 397

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        398 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 457

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        458 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 517

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        518 QKLFLEMIGNQVQSVKISCL 537


RESULT 12
US-11-058-073-125
; Sequence 125, Application US/11058073
; Publication No. US20050147611A1
; GENERAL INFORMATION:
;  APPLICANT: BOYLE, WILLIAM J.
;  APPLICANT:  LACEY, DAVID LEE
;  APPLICANT:  CALZONE, FRANK J.
;  APPLICANT:  CHANG, MING-SHI
;  APPLICANT:  SENALDI, GIORGIO
;  TITLE OF INVENTION: COMBINATION THERAPY FOR CONDITIONS LEADING TO BONE LOSS
;  FILE REFERENCE: A-378CIP5C
;  CURRENT APPLICATION NUMBER: US/11/058,073
;  CURRENT FILING DATE:  2005-02-14
;  PRIOR APPLICATION NUMBER: US/09/613,591
;  PRIOR FILING DATE: 2000-07-10
;  PRIOR APPLICATION NUMBER: US 09/457,647
;  PRIOR FILING DATE: 1999-12-09
;  PRIOR APPLICATION NUMBER: US 09/350,670
;  PRIOR FILING DATE: 1999-07-09
;  PRIOR APPLICATION NUMBER: US 08/706,945
;  PRIOR FILING DATE: 1996-09-03
;  PRIOR APPLICATION NUMBER: US 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 178
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 125
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-058-073-125

  Query Match             99.8%;  Score 2081;  DB 20;  Length 401;
  Best Local Similarity   99.7%;  Pred. No. 5.3e-167;
  Matches  379;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||:|||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKSVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 13
US-09-062-113-4
; Sequence 4, Application US/09062113
; Patent No. US20020051969A1
;  GENERAL INFORMATION:
;    APPLICANT:  GOTO, Masaaki
;    APPLICANT:  TSUDA, Eisuke
;    APPLICANT:  MOCHIZUKI, Shin'ichi
;    APPLICANT:  YANO, Kazuki
;    APPLICANT:  KOBAYASHI, Fumie
;    APPLICANT:  SHIMA, No. US20020051969A1uyuki
;    APPLICANT:  YASUDA, Hisataka
;    APPLICANT:  NAKAGAWA, No. US20020051969A1uaki
;    APPLICANT:  MORINAGA, Tomonori
;    APPLICANT:  UEDA, Masatsugu
;    APPLICANT:  HIGASHIO, Kanji
;    TITLE OF INVENTION:  No. US20020051969A1el Proteins and Methods for Producing
```

```
;    TITLE OF INVENTION:  the Proteins
;    NUMBER OF SEQUENCES:  108
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Testa, Hurwitz & Thibeault
;      STREET:  125 High St.
;      CITY:  Boston
;      STATE:  MA
;      COUNTRY:  USA
;      ZIP:  02110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/062,113
;      FILING DATE:  17-APR-1998
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  JP 54977/1995
;      FILING DATE:  20-FEB-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  JP 207508/1995
;      FILING DATE:  21-JUL-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/JP96/00374
;      FILING DATE:  20-FEB-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/915,004
;      FILING DATE:  20-FEB-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MOORE, Ronda P.
;      REGISTRATION NUMBER:  44,244
;      REFERENCE/DOCKET NUMBER:  FJN-060DV
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 248-7000
;      TELEFAX:  (617) 248-7100
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  380 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Protein
;      LOCATION:  1..380
;      OTHER INFORMATION:  /note= "(OCIF protein without
;      OTHER INFORMATION:  signal peptide)"
US-09-062-113-4

  Query Match             99.7%;  Score 2079;  DB 9;  Length 380;
  Best Local Similarity   99.7%;  Pred. No. 7.2e-167;
  Matches  379;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        361 QKLFLEMIGNQVQSVKISCL 380


RESULT 14
US-10-232-858-4
; Sequence 4, Application US/10232858
; Publication No. US20030153048A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, No. US20030153048A1uyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, No. US20030153048A1uaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: No. US20030153048A1el Proteins and Methods for Producing the Prot
;  FILE REFERENCE: 16991.004
;  CURRENT APPLICATION NUMBER: US/10/232,858
;  CURRENT FILING DATE:  2002-09-03
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
;   LENGTH: 380
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-232-858-4

  Query Match             99.7%;  Score 2079;  DB 14;  Length 380;
  Best Local Similarity   99.7%;  Pred. No. 7.2e-167;
  Matches  379;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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Db        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        361 QKLFLEMIGNQVQSVKISCL 380


RESULT 15
US-10-785-109-4
; Sequence 4, Application US/10785109
; Publication No. US20040142426A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, Nobuyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, Nobuaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
;  FILE REFERENCE: 16991.017
;  CURRENT APPLICATION NUMBER: US/10/785,109
;  CURRENT FILING DATE:  2004-02-25
;  PRIOR APPLICATION NUMBER: US 10/232,858
;  PRIOR FILING DATE: 2002-09-03
;  PRIOR APPLICATION NUMBER: US 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: JP 207508/1995
;  PRIOR FILING DATE: 1995-07-21
;  PRIOR APPLICATION NUMBER: JP 054977/1995
;  PRIOR FILING DATE: 1995-02-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
;   LENGTH: 380
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-785-109-4

  Query Match             99.7%;  Score 2079;  DB 16;  Length 380;
  Best Local Similarity   99.7%;  Pred. No. 7.2e-167;
  Matches  379;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
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Db        241 KDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        361 QKLFLEMIGNQVQSVKISCL 380
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Search completed: November 14, 2005, 23:23:57
Job time : 110.532 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 22:59:40 ; Search time 30.4475 Seconds
(without alignments)
931.659 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_401
Perfect score: 2085
Sequence: 1 ETFPPKYLHYDEETSHQLLC.....QKLFLEMIGNQVQSVKISCL 380

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
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4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2085	100.0	401	3	US-08-974-022-6	Sequence 6, Appli
2	2085	100.0	401	3	US-09-042-785A-12	Sequence 12, Appl
3	2085	100.0	401	3	US-08-795-445A-6	Sequence 6, Appli
4	2085	100.0	401	3	US-08-795-447A-6	Sequence 6, Appli
5	2085	100.0	401	3	US-08-974-186-6	Sequence 6, Appli
6	2085	100.0	401	3	US-08-795-446B-6	Sequence 6, Appli
7	2085	100.0	401	3	US-08-706-945D-128	Sequence 128, App
8	2085	100.0	401	4	US-08-577-788C-6	Sequence 6, Appli
9	2085	100.0	401	4	US-08-577-788C-56	Sequence 56, Appl
10	2085	100.0	401	4	US-09-064-832-2	Sequence 2, Appli
11	2079	99.7	401	3	US-09-153-927-1	Sequence 1, Appli
12	2079	99.7	401	3	US-09-072-993C-1	Sequence 1, Appli
13	1982	95.1	364	3	US-08-706-945D-142	Sequence 142, App
14	1828	87.7	401	3	US-08-974-022-2	Sequence 2, Appli
15	1828	87.7	401	3	US-08-795-445A-2	Sequence 2, Appli
16	1828	87.7	401	3	US-08-795-447A-2	Sequence 2, Appli
17	1828	87.7	401	3	US-08-974-186-2	Sequence 2, Appli
18	1828	87.7	401	3	US-08-795-446B-2	Sequence 2, Appli
19	1828	87.7	401	3	US-08-706-945D-124	Sequence 124, App
20	1828	87.7	401	4	US-08-577-788C-2	Sequence 2, Appli
21	1828	87.7	401	4	US-08-577-788C-55	Sequence 55, Appl
22	1820	87.3	401	3	US-08-974-022-4	Sequence 4, Appli
23	1820	87.3	401	3	US-09-042-785A-13	Sequence 13, Appl
24	1820	87.3	401	3	US-08-795-445A-4	Sequence 4, Appli
25	1820	87.3	401	3	US-08-795-447A-4	Sequence 4, Appli
26	1820	87.3	401	3	US-08-974-186-4	Sequence 4, Appli
27	1820	87.3	401	3	US-08-795-446B-4	Sequence 4, Appli
28	1820	87.3	401	3	US-08-706-945D-126	Sequence 126, App
29	1820	87.3	401	4	US-08-577-788C-4	Sequence 4, Appli
30	1820	87.3	401	4	US-08-577-788C-54	Sequence 54, Appl
31	1720	82.5	364	3	US-08-706-945D-141	Sequence 141, App
32	1531	73.4	293	4	US-09-896-096A-18	Sequence 18, Appl
33	952	45.7	208	4	US-08-577-788C-50	Sequence 50, Appl
34	945	45.3	161	4	US-09-632-277A-3	Sequence 3, Appli
35	865	41.5	147	3	US-09-527-236A-20	Sequence 20, Appl
36	865	41.5	147	4	US-09-756-854-20	Sequence 20, Appl
37	861	41.3	146	4	US-09-523-323-58	Sequence 58, Appl
38	827	39.7	139	3	US-08-706-945D-130	Sequence 130, App
39	781	37.5	174	3	US-08-706-945D-136	Sequence 136, App
40	440.5	21.1	271	4	US-09-936-019-1	Sequence 1, Appli
41	440.5	21.1	300	2	US-08-794-796-2	Sequence 2, Appli
42	440.5	21.1	300	4	US-09-632-277A-2	Sequence 2, Appli
43	440.5	21.1	300	4	US-09-523-323-52	Sequence 52, Appl
44	440.5	21.1	300	4	US-09-896-096A-1	Sequence 1, Appli
45	440.5	21.1	300	4	US-09-936-019-3	Sequence 3, Appli

ALIGNMENTS

RESULT 1
US-08-974-022-6
; Sequence 6, Application US/08974022
; Patent No. 6015938
; GENERAL INFORMATION:
; APPLICANT: Boyle, Willaim J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,022
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-022-6

Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Db          82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy         121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db         142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy         181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db         202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy         241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
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Db         262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy         301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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Db         322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy         361 QKLFLEMIGNQVQSVKISCL 380
                 ||||||||||||||||||||
Db         382 QKLFLEMIGNQVQSVKISCL 401


RESULT 2
US-09-042-785A-12
; Sequence 12, Application US/09042785A
; Patent No. 6194151
;  GENERAL INFORMATION:
;    APPLICANT:  Busfield, Samantha J
;    TITLE OF INVENTION:  NOVEL MOLECULES OF THE TNF RECEPTOR SUPERFAMILY
;    TITLE OF INVENTION:  AND USES THEREFOR
;    NUMBER OF SEQUENCES:  31
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD, LLP
;      STREET:  28 State Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/042,785A
;      FILING DATE:  17-MAR-1998
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/938,896
;      FILING DATE:  26-SEP-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  MEI-001CP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617)227-7400
;      TELEFAX:  (617)742-4214
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FRAGMENT TYPE:  internal
US-09-042-785A-12

  Query Match             100.0%;  Score 2085;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-186;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db          22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy          61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Db          82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy         121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db         142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy         181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db         202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy         241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
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Db         262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy         301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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Db         322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy         361 QKLFLEMIGNQVQSVKISCL 380
                 ||||||||||||||||||||
Db         382 QKLFLEMIGNQVQSVKISCL 401


RESULT 3
US-08-795-445A-6
; Sequence 6, Application US/08795445A
; Patent No. 6284485
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,445A
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-445A-6

  Query Match             100.0%;  Score 2085;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-186;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        382 QKLFLEMIGNQVQSVKISCL 401
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RESULT 4
US-08-795-447A-6
; Sequence 6, Application US/08795447A
; Patent No. 6284728
; GENERAL INFORMATION:
; APPLICANT: Boyle, William J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: Osteoprotegerin
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: One Amgen Center Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91362-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,447A
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378D2
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-447A-6

Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
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Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        382 QKLFLEMIGNQVQSVKISCL 401
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RESULT 5
US-08-974-186-6
; Sequence 6, Application US/08974186
; Patent No. 6284740
; GENERAL INFORMATION:
; APPLICANT: Boyle, Willaim J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,186
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-186-6

Query Match 100.0%; Score 2085; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.5e-186;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        382 QKLFLEMIGNQVQSVKISCL 401
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RESULT 6
US-08-795-446B-6
; Sequence 6, Application US/08795446B
; Patent No. 6288032
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,446B
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-446B-6

  Query Match           100.0%;  Score 2085;  DB 3;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-186;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401
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RESULT 7
US-08-706-945D-128
; Sequence 128, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378CIP
;  CURRENT APPLICATION NUMBER: US/08/706,945D
;  CURRENT FILING DATE:  1996-09-03
;  PRIOR APPLICATION NUMBER: 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 145
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 128
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-706-945D-128

  Query Match           100.0%;  Score 2085;  DB 3;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-186;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 8
US-08-577-788C-6
; Sequence 6, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378 Rev
;  CURRENT APPLICATION NUMBER: US/08/577,788C
;  CURRENT FILING DATE:  1995-12-22
;  NUMBER OF SEQ ID NOS: 58
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-577-788C-6

  Query Match             100.0%;  Score 2085;  DB 4;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-186;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 9
US-08-577-788C-56
; Sequence 56, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378 Rev
;  CURRENT APPLICATION NUMBER: US/08/577,788C
;  CURRENT FILING DATE:  1995-12-22
;  NUMBER OF SEQ ID NOS: 58
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 56
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-577-788C-56

  Query Match             100.0%;  Score 2085;  DB 4;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-186;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 10
US-09-064-832-2
; Sequence 2, Application US/09064832
; Patent No. 6790823
;  GENERAL INFORMATION:
;    APPLICANT:  Simonet, Scott
;    APPLICANT:  Sarosi, Ildiko
;    TITLE OF INVENTION:  COMPOSITIONS AND METHODS FOR THE
;    TITLE OF INVENTION:  PREVENTION AND TREATMENT OF CARDIOVASCULAR DISEASES
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  One Amgen Center Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/064,832
;      FILING DATE:
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
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;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-525
;   INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  401 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-09-064-832-2

  Query Match             100.0%;  Score 2085;  DB 4;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-186;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 11
US-09-153-927-1
; Sequence 1, Application US/09153927A
; Patent No. 6297022
; GENERAL INFORMATION:
;  APPLICANT: McDonnell, Peter C.
;  APPLICANT: Young, Peter R.
;  APPLICANT: Zou, Jun
;  TITLE OF INVENTION: A Method of Identifying Agonists and
;  TITLE OF INVENTION: Antagonists for Tumor Necrosis Related Receptors TR1, TR3
;  TITLE OF INVENTION: and TR5
;  FILE REFERENCE: GH50031
;  CURRENT APPLICATION NUMBER: US/09/153,927A
;  CURRENT FILING DATE: 1998-09-16
;  EARLIER APPLICATION NUMBER: 60/061,334
;  EARLIER FILING DATE: 1997-10-08
;  NUMBER OF SEQ ID NOS: 11
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Human
US-09-153-927-1

  Query Match             99.7%;  Score 2079;  DB 3;  Length 401;
  Best Local Similarity   99.7%;  Pred. No. 9.1e-186;
  Matches  379;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 12
US-09-072-993C-1
; Sequence 1, Application US/09072993C
; Patent No. 6346388
; GENERAL INFORMATION:
;  APPLICANT: Michael R. Brigham-Burke
;  APPLICANT:  Peter R. Young
;  TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
;  TITLE OF INVENTION:  ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
;  FILE REFERENCE: GH-50030
;  CURRENT APPLICATION NUMBER: US/09/072,993C
;  CURRENT FILING DATE:  1998-05-06
;  PRIOR APPLICATION NUMBER: 60/055,513
;  PRIOR FILING DATE: 1997-08-13
;  PRIOR APPLICATION NUMBER: 60/056,980
;  PRIOR FILING DATE: 1997-08-26
;  PRIOR APPLICATION NUMBER: 60/057,550
;  PRIOR FILING DATE: 1997-08-29
;  NUMBER OF SEQ ID NOS: 9
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: HOMO SAPIENS
US-09-072-993C-1

  Query Match             99.7%;  Score 2079;  DB 3;  Length 401;
  Best Local Similarity   99.7%;  Pred. No. 9.1e-186;
  Matches  379;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261
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Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 13
US-08-706-945D-142
; Sequence 142, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378CIP
;  CURRENT APPLICATION NUMBER: US/08/706,945D
;  CURRENT FILING DATE:  1996-09-03
;  PRIOR APPLICATION NUMBER: 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 145
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 142
;   LENGTH: 364
;   TYPE: PRT
;   ORGANISM: Mus musculus
US-08-706-945D-142

  Query Match             95.1%;  Score 1982;  DB 3;  Length 364;
  Best Local Similarity   95.8%;  Pred. No. 9.1e-177;
  Matches  364;  Conservative    0;  Mismatches    0;  Indels   16;  Gaps    1;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              |||||||||||||||||||||||                  ||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTN----------------DNICSGNSESTQKCGIDVTL 164

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        165 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 224

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        225 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 284

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        285 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 344

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        345 QKLFLEMIGNQVQSVKISCL 364


RESULT 14
US-08-974-022-2
; Sequence 2, Application US/08974022
; Patent No. 6015938
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/974,022
;      FILING DATE:  12-DEC-1995
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-974-022-2

  Query Match             87.7%;  Score 1828;  DB 3;  Length 401;
  Best Local Similarity   86.3%;  Pred. No. 2.5e-162;
  Matches  328;  Conservative   24;  Mismatches   28;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDPETGRQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDYSYTDSWHTSDECV 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              |||||||||  ||||||||||||:||||:||||||||||| ||:||||||||||
Db         82 YCSPVCKELQTVKQECNRTHNRVCECEEGRYLELEFCLKHRSCPPGLGVLQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              |||||||||| ||||||||||||||  |||| |||||||||:|||| |:|| |||||||
Db        142 CKRCPDGFFSGETSSKAPCRKHTNCSSLGLLLIQKGNATHDNVCSGNREATQNCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db        202 CEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              : |::|||||||||||:|||||||||||| |||| |||||||||:  ::||:| | |||
Db        262 RDQEMVKKIIQDIDLCESSVQRHIGHANLTTEQLRILMESLPGKKISPDEIERTRKTCKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              |:|:|||||||||||||||||||:|||| | |||||||| ||:||||||||||:||
Db        322 SEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKAYHFPKTVTHSLRKTIRFLHSFTMYRLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 15
US-08-795-445A-2
; Sequence 2, Application US/08795445A
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; Patent No. 6284485
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,445A
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-445A-2

  Query Match             87.7%;  Score 1828;  DB 3;  Length 401;
  Best Local Similarity   86.3%;  Pred. No. 2.5e-162;
  Matches  328;  Conservative   24;  Mismatches   28;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||| ||  ||||||| |||||||||| : ||:| |||| |||||||||||:
Db         22 ETFPPKYLHYDPETGRQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDYSYTDSWHTSDECV 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              |||||||||| ||||||||||||||:||||||:|||||||||||| ||:||||||||||
Db         82 YCSPVCKELQTVKQECNRTHNRVCECEEGRYLELEFCLKHRSCPPGLGVLQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              |||||||||| ||||||||||||||   |||| |||||||||:|||| |:|| |||||||
Db        142 CKRCPDGFFSGETSSKAPCRKHTNCSSLGLLLIQKGNATHDNVCSGNREATQNCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              |||||||||||||  |||||||||:||||||||||||||||:||||||||||||||||||
Db        202 CEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              : |::||||||||||||:|||||||||||| |||| |||||||||:  ::||:| | |||
Db        262 RDQEMVKKIIQDIDLCESSVQRHIGHANLTTEQLRILMESLPGKKISPDEIERTRKTCKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              |:|:||||||||||||||||||:|||| | |||||||| ||:|||||||||||:||
Db        322 SEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKAYHFPKTVTHSLRKTIRFLHSFTMYRLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
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Db        382 QKLFLEMIGNQVQSVKISCL 401


Search completed: November 14, 2005, 23:19:14
Job time : 31.4475 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 22:59:40 ; Search time 32.1301 Seconds
(without alignments)
931.659 Million cell updates/sec

Title: US-10-762-159-125
Perfect score: 2198
Sequence: 1 MNKLLCCALVFLDISIKWTT.....QKLFLEMIGNQVQSVKISCL 401

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
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6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2198	100.0	401	3	US-08-974-022-6	Sequence 6, Appli
2	2198	100.0	401	3	US-09-042-785A-12	Sequence 12, Appl
3	2198	100.0	401	3	US-08-795-445A-6	Sequence 6, Appli
4	2198	100.0	401	3	US-08-795-447A-6	Sequence 6, Appli
5	2198	100.0	401	3	US-08-974-186-6	Sequence 6, Appli
6	2198	100.0	401	3	US-08-795-446B-6	Sequence 6, Appli
7	2198	100.0	401	3	US-08-706-945D-128	Sequence 128, App
8	2198	100.0	401	4	US-08-577-788C-6	Sequence 6, Appli
9	2198	100.0	401	4	US-08-577-788C-56	Sequence 56, Appl
10	2198	100.0	401	4	US-09-064-832-2	Sequence 2, Appli
11	2192	99.7	401	3	US-09-153-927-1	Sequence 1, Appli
12	2192	99.7	401	3	US-09-072-993C-1	Sequence 1, Appli
13	1982	90.2	364	3	US-08-706-945D-142	Sequence 142, App
14	1906	86.7	401	3	US-08-974-022-2	Sequence 2, Appli
15	1906	86.7	401	3	US-08-795-445A-2	Sequence 2, Appli
16	1906	86.7	401	3	US-08-795-447A-2	Sequence 2, Appli
17	1906	86.7	401	3	US-08-974-186-2	Sequence 2, Appli
18	1906	86.7	401	3	US-08-795-446B-2	Sequence 2, Appli
19	1906	86.7	401	3	US-08-706-945D-124	Sequence 124, App
20	1906	86.7	401	4	US-08-577-788C-2	Sequence 2, Appli
21	1906	86.7	401	4	US-08-577-788C-55	Sequence 55, Appl
22	1892	86.1	401	3	US-08-974-022-4	Sequence 4, Appli
23	1892	86.1	401	3	US-09-042-785A-13	Sequence 13, Appl
24	1892	86.1	401	3	US-08-795-445A-4	Sequence 4, Appli
25	1892	86.1	401	3	US-08-795-447A-4	Sequence 4, Appli
26	1892	86.1	401	3	US-08-974-186-4	Sequence 4, Appli
27	1892	86.1	401	3	US-08-795-446B-4	Sequence 4, Appli
28	1892	86.1	401	3	US-08-706-945D-126	Sequence 126, App
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30	1892	86.1	401	4	US-08-577-788C-54	Sequence 54, Appl
31	1720	78.3	364	3	US-08-706-945D-141	Sequence 141, App
32	1644	74.8	293	4	US-09-896-096A-18	Sequence 18, Appl
33	1030	46.9	208	4	US-08-577-788C-50	Sequence 50, Appl
34	945	43.0	161	4	US-09-632-277A-3	Sequence 3, Appli
35	865	39.4	147	3	US-09-527-236A-20	Sequence 20, Appl
36	865	39.4	147	4	US-09-756-854-20	Sequence 20, Appl
37	861	39.2	146	4	US-09-523-323-58	Sequence 58, Appl
38	859	39.1	174	3	US-08-706-945D-136	Sequence 136, App
39	827	37.6	139	3	US-08-706-945D-130	Sequence 130, App
40	444	20.2	300	2	US-08-794-796-2	Sequence 2, Appli
41	444	20.2	300	4	US-09-632-277A-2	Sequence 2, Appli
42	444	20.2	300	4	US-09-523-323-52	Sequence 52, Appl
43	444	20.2	300	4	US-09-896-096A-1	Sequence 1, Appli
44	444	20.2	300	4	US-09-936-019-3	Sequence 3, Appli
45	444	20.2	333	4	US-09-949-016-7678	Sequence 7678, Ap

ALIGNMENTS

RESULT 1
US-08-974-022-6
; Sequence 6, Application US/08974022
; Patent No. 6015938
; GENERAL INFORMATION:
; APPLICANT: Boyle, Willaim J.
; APPLICANT: Lacey, David L.
; APPLICANT: Calzone, Frank J.
; APPLICANT: Chang, Ming-Shi
; TITLE OF INVENTION: OSTEOPROTEGERIN
; NUMBER OF SEQUENCES: 53
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amgen Inc.
; STREET: 1840 Dehavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: USA
; ZIP: 91320-1789
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/974,022
; FILING DATE: 12-DEC-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/577,788
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Winter, Robert B.
; REFERENCE/DOCKET NUMBER: A-378
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 401 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-974-022-6

Query Match 100.0%; Score 2198; DB 3; Length 401;
Best Local Similarity 100.0%; Pred. No. 2.8e-196;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
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Db          61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy         121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
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Db         121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy         181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
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Db         181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy         241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
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Db         241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy         301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy         361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
                |||||||||||||||||||||||||||||||||||||||||
Db         361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 2
US-09-042-785A-12
; Sequence 12, Application US/09042785A
; Patent No. 6194151
;  GENERAL INFORMATION:
;    APPLICANT:  Busfield, Samantha J
;    TITLE OF INVENTION:  NOVEL MOLECULES OF THE TNF RECEPTOR SUPERFAMILY
;    TITLE OF INVENTION:  AND USES THEREFOR
;    NUMBER OF SEQUENCES:  31
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD, LLP
;      STREET:  28 State Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/042,785A
;      FILING DATE:  17-MAR-1998
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/938,896
;      FILING DATE:  26-SEP-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  MEI-001CP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617)227-7400
;      TELEFAX:  (617)742-4214
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FRAGMENT TYPE:  internal
US-09-042-785A-12

  Query Match             100.0%;  Score 2198;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
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Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
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Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
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Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 3
US-08-795-445A-6
; Sequence 6, Application US/08795445A
; Patent No. 6284485
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,445A
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-445A-6

  Query Match             100.0%;  Score 2198;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
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Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 4
US-08-795-447A-6
; Sequence 6, Application US/08795447A
; Patent No. 6284728
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, William J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  Osteoprotegerin
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  One Amgen Center Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91362-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,447A
;      FILING DATE:
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378D2
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-447A-6

  Query Match           100.0%;  Score 2198;  DB 3;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 5
US-08-974-186-6
; Sequence 6, Application US/08974186
; Patent No. 6284740
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/974,186
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-974-186-6

  Query Match           100.0%;  Score 2198;  DB 3;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 6
US-08-795-446B-6
; Sequence 6, Application US/08795446B
; Patent No. 6288032
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,446B
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-446B-6

  Query Match           100.0%;  Score 2198;  DB 3;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 7
US-08-706-945D-128
; Sequence 128, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378CIP
;  CURRENT APPLICATION NUMBER: US/08/706,945D
;  CURRENT FILING DATE:  1996-09-03
;  PRIOR APPLICATION NUMBER: 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 145
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 128
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-706-945D-128

  Query Match           100.0%;  Score 2198;  DB 3;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
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Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 8
US-08-577-788C-6
; Sequence 6, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378 Rev
;  CURRENT APPLICATION NUMBER: US/08/577,788C
;  CURRENT FILING DATE:  1995-12-22
;  NUMBER OF SEQ ID NOS: 58
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-577-788C-6

  Query Match            100.0%;  Score 2198;  DB 4;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 9
US-08-577-788C-56
; Sequence 56, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378 Rev
;  CURRENT APPLICATION NUMBER: US/08/577,788C
;  CURRENT FILING DATE:  1995-12-22
;  NUMBER OF SEQ ID NOS: 58
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 56
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-577-788C-56

  Query Match            100.0%;  Score 2198;  DB 4;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 10
US-09-064-832-2
; Sequence 2, Application US/09064832
; Patent No. 6790823
;  GENERAL INFORMATION:
;    APPLICANT:  Simonet, Scott
;    APPLICANT:  Sarosi, Ildiko
;    TITLE OF INVENTION:  COMPOSITIONS AND METHODS FOR THE
;    TITLE OF INVENTION:  PREVENTION AND TREATMENT OF CARDIOVASCULAR DISEASES
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  One Amgen Center Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/064,832
;      FILING DATE:
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
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;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-525
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-064-832-2

  Query Match            100.0%;  Score 2198;  DB 4;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 2.8e-196;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 11
US-09-153-927-1
; Sequence 1, Application US/09153927A
; Patent No. 6297022
; GENERAL INFORMATION:
;  APPLICANT: McDonnell, Peter C.
;  APPLICANT: Young, Peter R.
;  APPLICANT: Zou, Jun
;  TITLE OF INVENTION: A Method of Identifying Agonists and
;  TITLE OF INVENTION: Antagonists for Tumor Necrosis Related Receptors TR1, TR3
;  TITLE OF INVENTION: and TR5
;  FILE REFERENCE: GH50031
;  CURRENT APPLICATION NUMBER: US/09/153,927A
;  CURRENT FILING DATE: 1998-09-16
;  EARLIER APPLICATION NUMBER: 60/061,334
;  EARLIER FILING DATE: 1997-10-08
;  NUMBER OF SEQ ID NOS: 11
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Human
US-09-153-927-1

  Query Match            99.7%;  Score 2192;  DB 3;  Length 401;
  Best Local Similarity  99.8%;  Pred. No. 1e-195;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||

Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 12
US-09-072-993C-1
; Sequence 1, Application US/09072993C
; Patent No. 6346388
; GENERAL INFORMATION:
;  APPLICANT: Michael R. Brigham-Burke
;  APPLICANT:  Peter R. Young
;  TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
;  TITLE OF INVENTION:  ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
;  FILE REFERENCE: GH-50030
;  CURRENT APPLICATION NUMBER: US/09/072,993C
;  CURRENT FILING DATE:  1998-05-06
;  PRIOR APPLICATION NUMBER: 60/055,513
;  PRIOR FILING DATE: 1997-08-13
;  PRIOR APPLICATION NUMBER: 60/056,980
;  PRIOR FILING DATE: 1997-08-26
;  PRIOR APPLICATION NUMBER: 60/057,550
;  PRIOR FILING DATE: 1997-08-29
;  NUMBER OF SEQ ID NOS: 9
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: HOMO SAPIENS
US-09-072-993C-1

  Query Match            99.7%;  Score 2192;  DB 3;  Length 401;
  Best Local Similarity  99.8%;  Pred. No. 1e-195;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
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Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 13
US-08-706-945D-142
; Sequence 142, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378CIP
;  CURRENT APPLICATION NUMBER: US/08/706,945D
;  CURRENT FILING DATE:  1996-09-03
;  PRIOR APPLICATION NUMBER: 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 145
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 142
;   LENGTH: 364
;   TYPE: PRT
;   ORGANISM: Mus musculus
US-08-706-945D-142

  Query Match             90.2%;  Score 1982;  DB 3;  Length 364;
  Best Local Similarity   95.8%;  Pred. No. 3.2e-176;
  Matches  364;  Conservative    0;  Mismatches    0;  Indels   16;  Gaps    1;

Qy         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201
              |||||||||||||||||||||||                ||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTN----------------DNICSGNSESTQKCGIDVTL 164

Qy        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        165 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 224

Qy        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        225 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 284

Qy        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        285 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 344

Qy        382 QKLFLEMIGNQVQSVKISCL 401
              ||||||||||||||||||||
Db        345 QKLFLEMIGNQVQSVKISCL 364


RESULT 14
US-08-974-022-2
; Sequence 2, Application US/08974022
; Patent No. 6015938
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/974,022
;      FILING DATE:  12-DEC-1995
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-974-022-2

  Query Match             86.7%;  Score 1906;  DB 3;  Length 401;
  Best Local Similarity   86.1%;  Pred. No. 4.4e-169;
  Matches  346;  Conservative   25;  Mismatches   29;  Indels    2;  Gaps    2;

Qy          1 MNKLLCCA-LVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWK 59
              ||| |||| |||||| |:|||||||||||||||| ||  ||||||| |||||||||| : |
Db          1 MNKWLCCALLVFLDI-IEWTTQETFPPKYLHYDPETGRQLLCDKCAPGTYLKQHCTVRRK 59

Qy         60 TVCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCL 119
              |:| |||| |||||||||||:|||||||||| ||||||||||||||:||||||:||||
Db         60 TLCVPCPDYSYTDSWHTSDECVYCSPVCKELQTVKQECNRTHNRVCECEEGRYLELEFCL 119

Qy        120 KHRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNA 179
              |||||||| ||:|||||||||||||||||||| ||||||||||||||  |||| |||||
Db        120 KHRSCPPGLGVLQAGTPERNTVCKRCPDGFFSGETSSKAPCRKHTNCSSLGLLLIQKGNA 179

Qy        180 THDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVER 239
              ||||:|||| |:|| ||||||||||||||||||  |||||||||:|||||||||||||
Db        180 THDNVCSGNREATQNCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVER 239

Qy        240 IKRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLM 299
              |||:|||||||||||||||: |::|||||||||||:|||||||||||| |||| ||
Db        240 IKRRHSSQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHIGHANLTTEQLRILM 299

Qy        300 ESLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPK 359
              |||||||:  ::||:| | ||||:|:|||||||||||||||||||:|||| | |||||
Db        300 ESLPGKKISPDEIERTRKTCKPSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKAYHFPK 359

Qy        360 TVTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              ||| ||:|||||||||||:|||||||||||||||||||||||
Db        360 TVTHSLRKTIRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL 401


RESULT 15
US-08-795-445A-2
; Sequence 2, Application US/08795445A
```

```
; Patent No. 6284485
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,445A
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-445A-2

  Query Match             86.7%;  Score 1906;  DB 3;  Length 401;
  Best Local Similarity   86.1%;  Pred. No. 4.4e-169;
  Matches  346;  Conservative   25;  Mismatches   29;  Indels    2;  Gaps    2;

Qy          1 MNKLLCCA-LVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWK 59
              ||| |||| |||||| |:||||||||||||||| ||  ||||||| |||||||||| : |
Db          1 MNKWLCCALLVFLDI-IEWTTQETFPPKYLHYDPETGRQLLCDKCAPGTYLKQHCTVRRK 59

Qy         60 TVCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCL 119
              |:| ||||: ||||||||||:|||||||||| ||||||||||||||:||||||:||||
Db         60 TLCVPCPDYSYTDSWHTSDECVYCSPVCKELQTVKQECNRTHNRVCECEEGRYLELEFCL 119

Qy        120 KHRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNA 179
              |||||||| ||:|||||||||||||||||| |||||||||||||  |||| |||||
Db        120 KHRSCPPGLGVLQAGTPERNTVCKRCPDGFFSGETSSKAPCRKHTNCSSLGLLLIQKGNA 179

Qy        180 THDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVER 239
              ||||:|||| |:|| |||||||||||||||||| |||||||||:|||||||||||||
Db        180 THDNVCSGNREATQNCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVER 239

Qy        240 IKRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLM 299
              |||:||||||||||||||||: |::||||||||||:|||||||||||| |||| ||
Db        240 IKRRHSSQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHIGHANLTTEQLRILM 299

Qy        300 ESLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPK 359
              |||||||:  ::||:| | ||||:|:|||||||||||||||||||:|||| | |||||
Db        300 ESLPGKKISPDEIERTRKTCKPSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKAYHFPK 359

Qy        360 TVTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              ||| ||:||||||||||||:|||||||||||||||||||||
Db        360 TVTHSLRKTIRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL 401


  Search completed: November 14, 2005, 23:19:13
  Job time : 33.1301 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 23:07:15 ; Search time 115.585 Seconds
(without alignments)
1451.594 Million cell updates/sec

Title: US-10-762-159-125
Perfect score: 2198
Sequence: 1 MNKLLCCALVFLDISIKWTT.....QKLFLEMIGNQVQSVKISCL 401

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867879 seqs, 418409474 residues

Total number of hits satisfying chosen parameters: 1867879

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
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22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2198	100.0	401	10	US-09-405-032-125	Sequence 125, App
2	2198	100.0	401	14	US-10-151-071-8	Sequence 8, Appli
3	2198	100.0	401	16	US-10-467-243-2	Sequence 2, Appli
4	2198	100.0	401	17	US-10-129-595-3	Sequence 3, Appli
5	2198	100.0	401	18	US-10-966-845-4	Sequence 4, Appli
6	2198	100.0	401	18	US-10-762-159-125	Sequence 125, App
7	2194	99.8	401	20	US-11-058-073-125	Sequence 125, App
8	2193	99.8	400	14	US-10-142-658-2	Sequence 2, Appli
9	2192	99.7	401	13	US-10-066-209-1	Sequence 1, Appli
10	2192	99.7	401	13	US-10-105-934-2	Sequence 2, Appli
11	2192	99.7	401	13	US-10-164-592-2	Sequence 2, Appli
12	2192	99.7	401	14	US-10-044-674-3	Sequence 3, Appli
13	2192	99.7	401	14	US-10-322-673-5	Sequence 5, Appli
14	2192	99.7	401	14	US-10-139-785-5	Sequence 5, Appli
15	2192	99.7	401	17	US-10-895-676-2	Sequence 2, Appli
16	2192	99.7	401	18	US-10-986-046-5	Sequence 5, Appli
17	2192	99.7	401	18	US-10-986-047-5	Sequence 5, Appli
18	2192	99.7	401	18	US-10-966-845-2	Sequence 2, Appli
19	2192	99.7	401	18	US-10-775-204-528	Sequence 528, App
20	2192	99.7	401	18	US-10-775-204-529	Sequence 529, App
21	2192	99.7	401	18	US-10-775-204-542	Sequence 542, App
22	2192	99.7	401	18	US-10-775-204-1238	Sequence 1238, Ap
23	2192	99.7	401	18	US-10-775-204-1239	Sequence 1239, Ap
24	2192	99.7	401	18	US-10-775-204-1240	Sequence 1240, Ap
25	2192	99.7	401	18	US-10-775-204-1241	Sequence 1241, Ap
26	2192	99.7	401	18	US-10-775-204-1242	Sequence 1242, Ap
27	2192	99.7	401	18	US-10-775-204-1243	Sequence 1243, Ap
28	2192	99.7	401	18	US-10-775-204-1244	Sequence 1244, Ap
29	2192	99.7	401	18	US-10-775-204-1245	Sequence 1245, Ap
30	2192	99.7	401	18	US-10-981-465-5	Sequence 5, Appli
31	2192	99.7	401	18	US-10-981-621-5	Sequence 5, Appli
32	2192	99.7	401	18	US-10-981-673-5	Sequence 5, Appli
33	2192	99.7	401	18	US-10-981-691-5	Sequence 5, Appli
34	2192	99.7	401	18	US-10-986-349-5	Sequence 5, Appli
35	2192	99.7	401	18	US-10-986-376-5	Sequence 5, Appli
36	2192	99.7	986	18	US-10-775-204-312	Sequence 312, App
37	2192	99.7	986	18	US-10-775-204-326	Sequence 326, App
38	2187	99.5	401	9	US-09-062-113-5	Sequence 5, Appli
39	2187	99.5	401	14	US-10-183-091-1	Sequence 1, Appli
40	2187	99.5	401	14	US-10-364-045-1	Sequence 1, Appli
41	2187	99.5	401	14	US-10-232-858-5	Sequence 5, Appli
42	2187	99.5	401	15	US-10-377-076-1	Sequence 1, Appli
43	2187	99.5	401	16	US-10-785-109-5	Sequence 5, Appli
44	2187	99.5	401	16	US-10-785-114-5	Sequence 5, Appli
45	2187	99.5	401	17	US-10-929-958-5	Sequence 5, Appli

ALIGNMENTS

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RESULT 1
US-09-405-032-125
; Sequence 125, Application US/09405032
; Publication No. US20030207827A1
;  GENERAL INFORMATION:
;       APPLICANT: Amgen Inc.
;       TITLE OF INVENTION: OSTEOPROTEGERIN
;       NUMBER OF SEQUENCES: 168
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Amgen Inc.
;            STREET: 1840 Dehavilland Drive
;            CITY: Thousand Oaks
;            STATE: California
;            COUNTRY: United States
;            ZIP: 91320
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/405,032
;            FILING DATE: 24-Sep-1999
;            CLASSIFICATION: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Winter, Robert B.
;            REFERENCE/DOCKET NUMBER: A-378-CIP2
;  INFORMATION FOR SEQ ID NO: 125:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 401 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 125:
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US-09-405-032-125

Query Match 100.0%; Score 2198; DB 10; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
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Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
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Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
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Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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RESULT 2
US-10-151-071-8
; Sequence 8, Application US/10151071
; Publication No. US20030017151A1
; GENERAL INFORMATION:
; APPLICANT: DOUGALL, William
; APPLICANT: ANDERSON, Dirk
; TITLE OF INVENTION: THERAPEUTIC USES OF RANK ANTAGONISTS
; FILE REFERENCE: 3277-A
; CURRENT APPLICATION NUMBER: US/10/151,071
; CURRENT FILING DATE: 2001-05-17
; PRIOR APPLICATION NUMBER: 60/291,919
; PRIOR FILING DATE: 2001-05-17
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 8
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-151-071-8

Query Match 100.0%; Score 2198; DB 14; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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RESULT 3
US-10-467-243-2
; Sequence 2, Application US/10467243
; Publication No. US20040132971A1
; GENERAL INFORMATION:
; APPLICANT: Maxygen Holdings Ltd.
; APPLICANT: Haaning, Jesper Mortensen
; APPLICANT: Halkier, Torben
; TITLE OF INVENTION: RANK LIGAND-BINDING POLYPEPTIDES
; FILE REFERENCE: 0226wo310
; CURRENT APPLICATION NUMBER: US/10/467,243
; CURRENT FILING DATE: 2003-08-06
; PRIOR APPLICATION NUMBER: DK PA 2001 00214
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: US 60/267,843
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: DK PA 2001 00498
; PRIOR FILING DATE: 2001-03-23
; PRIOR APPLICATION NUMBER: US 60/278,320
; PRIOR FILING DATE: 2001-03-23
; NUMBER OF SEQ ID NOS: 38
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 401
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-467-243-2

Query Match 100.0%; Score 2198; DB 16; Length 401;
Best Local Similarity 100.0%; Pred. No. 1.3e-175;
Matches 401; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
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Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
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Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
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Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
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Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
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Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 4
US-10-129-595-3
; Sequence 3, Application US/10129595
; Publication No. US20050031583A1
; GENERAL INFORMATION:
;  APPLICANT: Genentech, Inc. et al.
;  TITLE OF INVENTION: Uses of OPG Ligand to Modulate Immune Responses
;  FILE REFERENCE: P1830R1
;  CURRENT APPLICATION NUMBER: US/10/129,595
;  CURRENT FILING DATE:  2002-05-08
;  PRIOR APPLICATION NUMBER: US 60/278,215
;  PRIOR FILING DATE: 2001-03-23
;  NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 3
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapien
US-10-129-595-3

  Query Match             100.0%;  Score 2198;  DB 17;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-175;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
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Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
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Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
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Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
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Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
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Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 5
US-10-966-845-4
; Sequence 4, Application US/10966845
; Publication No. US20050143301A1
; GENERAL INFORMATION:
;  APPLICANT: Applied Research Systems ARS Holding N.V.
;  TITLE OF INVENTION: Use of osteoprotegerin for the treatment and/or prevention of fib
;  TITLE OF INVENTION:  disease
;  FILE REFERENCE: US 550 CIP
;  CURRENT APPLICATION NUMBER: US/10/966,845
;  CURRENT FILING DATE:  2004-10-15
;  PRIOR APPLICATION NUMBER: EP02100364.5
;  PRIOR FILING DATE: 2002-04-10
;  PRIOR APPLICATION NUMBER: PCT/EP03/50080
;  PRIOR FILING DATE: 2003-03-26
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-966-845-4

  Query Match             100.0%;  Score 2198;  DB 18;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-175;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
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Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 6
US-10-762-159-125
; Sequence 125, Application US/10762159
; Publication No. US20050221331A1
; GENERAL INFORMATION:
;    APPLICANT:  Boyle, William J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  168
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  United States
;      ZIP:  91320
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/10/762,159
;      FILING DATE:  2004-JAN-20
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/132,985
;      FILING DATE:  1998-AUG-12
;      APPLICATION NUMBER:  08/771,777
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
```

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;      REFERENCE/DOCKET NUMBER:  A-378-CIP
;  INFORMATION FOR SEQ ID NO:  125:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-10-762-159-125

  Query Match            100.0%;  Score 2198;  DB 18;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-175;
  Matches  401;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 7
US-11-058-073-125
; Sequence 125, Application US/11058073
; Publication No. US20050147611A1
; GENERAL INFORMATION:
;  APPLICANT: BOYLE, WILLIAM J.
;  APPLICANT:  LACEY, DAVID LEE
;  APPLICANT:  CALZONE, FRANK J.
;  APPLICANT:  CHANG, MING-SHI
;  APPLICANT:  SENALDI, GIORGIO
;  TITLE OF INVENTION: COMBINATION THERAPY FOR CONDITIONS LEADING TO BONE LOSS
;  FILE REFERENCE: A-378CIP5C
;  CURRENT APPLICATION NUMBER: US/11/058,073
;  CURRENT FILING DATE:  2005-02-14
;  PRIOR APPLICATION NUMBER: US/09/613,591
;  PRIOR FILING DATE: 2000-07-10
;  PRIOR APPLICATION NUMBER: US 09/457,647
;  PRIOR FILING DATE: 1999-12-09
;  PRIOR APPLICATION NUMBER: US 09/350,670
;  PRIOR FILING DATE: 1999-07-09
;  PRIOR APPLICATION NUMBER: US 08/706,945
;  PRIOR FILING DATE: 1996-09-03
;  PRIOR APPLICATION NUMBER: US 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 178
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 125
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-058-073-125

  Query Match            99.8%;  Score 2194;  DB 20;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 2.8e-175;
  Matches  400;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||:
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKS 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 8
US-10-142-658-2
; Sequence 2, Application US/10142658
; Publication No. US20030022834A1
; GENERAL INFORMATION:
;  APPLICANT: Malyankar, Uriel M.
;  APPLICANT:  Scatena, Marta
;  APPLICANT:  Giachelli, Cecilia M.
;  TITLE OF INVENTION: METHODS AND DEVICES FOR PROMOTING ENDOTHELIAL MORPHOGENESIS
;  FILE REFERENCE: UWOTL118975
;  CURRENT APPLICATION NUMBER: US/10/142,658
;  CURRENT FILING DATE:  2002-05-09
;  PRIOR APPLICATION NUMBER: US 60/290,230
;  PRIOR FILING DATE: 2001-05-10
;  NUMBER OF SEQ ID NOS: 2
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 400
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-10-142-658-2

  Query Match            99.8%;  Score 2193;  DB 14;  Length 400;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-175;
  Matches  400;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 NKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTV 61
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 NKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTV 60

Qy         62 CAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKH 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 CAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKH 120

Qy        122 RSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 181
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 RSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATH 180

Qy        182 DNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIK 241
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                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 DNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIK 240

Qy        242 RQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMES 301
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 RQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMES 300

Qy        302 LPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTV 361
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTV 360

Qy        362 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 TQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 400


RESULT 9
US-10-066-209-1
; Sequence 1, Application US/10066209
; Publication No. US20020115110A1
; GENERAL INFORMATION:
;  APPLICANT: Brigham-Burke, Michael R.
;  APPLICANT:  Young, Peter R.
;  TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
;  TITLE OF INVENTION:  ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
;  FILE REFERENCE: GH-50030-D1
;  CURRENT APPLICATION NUMBER: US/10/066,209
;  CURRENT FILING DATE:  2001-10-25
;  PRIOR APPLICATION NUMBER: 09/072,993
;  PRIOR FILING DATE: 1998-05-06
;  PRIOR APPLICATION NUMBER: 60/055,513
;  PRIOR FILING DATE: 1997-08-13
;  PRIOR APPLICATION NUMBER: 60/056,980
;  PRIOR FILING DATE: 1997-08-26
;  PRIOR APPLICATION NUMBER: 60/057,550
;  PRIOR FILING DATE: 1997-08-29
;  NUMBER OF SEQ ID NOS: 9
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: HOMO SAPIENS
US-10-066-209-1

  Query Match            99.7%;  Score 2192;  DB 13;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 4.2e-175;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 10
US-10-105-934-2
; Sequence 2, Application US/10105934
; Publication No. US20020150988A1
;  GENERAL INFORMATION:
;       APPLICANT: McCarthy, Sean A.
;                  Holtzman, Douglas
;       TITLE OF INVENTION: NOVEL MOLECULES OF THE FTHMA-070-
;                           RELATED PROTEIN FAMILY AND THE T85-RELATED PROTEIN
;                           FAMILY AND USES THEREOF
;       NUMBER OF SEQUENCES: 18
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Fish & Richardson P.C.
;            STREET: 225 Franklin Street
;            CITY: Boston
;            STATE: MA
;            COUNTRY: USA
;            ZIP: 02110-2804
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Diskette
;            COMPUTER: IBM Compatible
;            OPERATING SYSTEM: DOS
;            SOFTWARE: FastSEQ for Windows Version 2.0
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/105,934
;            FILING DATE: 25-Mar-2002
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/09/062,389
;            FILING DATE: 17-APR-1998
;            APPLICATION NUMBER: 60/062,017
;            FILING DATE: 10-OCT-1997
;            APPLICATION NUMBER: 60/044,746
;            FILING DATE: 18-APR-1997
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Meiklejohn, Anita L.
;            REGISTRATION NUMBER: 35,283
;            REFERENCE/DOCKET NUMBER: 09404/051001
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 617/542-5070
;            TELEFAX: 617/542-8906
;            TELEX: 200154
;  INFORMATION FOR SEQ ID NO: 2:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 401 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       FRAGMENT TYPE: internal
;       SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-105-934-2

  Query Match            99.7%;  Score 2192;  DB 13;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 4.2e-175;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 11
US-10-164-592-2
; Sequence 2, Application US/10164592
; Publication No. US20020150989A1
; GENERAL INFORMATION:
;  APPLICANT: Greene, John M.
;  APPLICANT:  Fleischmann, Robert D.
;  TITLE OF INVENTION: Human Tumor Necrosis Factor Receptor
;  FILE REFERENCE: 1488.0710007
;  CURRENT APPLICATION NUMBER: US/10/164,592
;  CURRENT FILING DATE:  2002-06-10
;  PRIOR APPLICATION NUMBER: US 08/469,637
;  PRIOR FILING DATE: 1995-06-06
;  PRIOR APPLICATION NUMBER: PCT/US95/03216
;  PRIOR FILING DATE: 1995-03-15
;  NUMBER OF SEQ ID NOS: 10
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-164-592-2

  Query Match             99.7%;  Score 2192;  DB 13;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 4.2e-175;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 12
US-10-044-674-3
; Sequence 3, Application US/10044674
; Publication No. US20030175710A1
; GENERAL INFORMATION:
;  APPLICANT: Chew, Anne
;  APPLICANT:  Denton, R. Rex
;  APPLICANT:  Bieglecki, Karyn M
;  APPLICANT:  Nandabalan, Krishnan
;  APPLICANT:  Stephens, J. Claiborne
;  TITLE OF INVENTION: HAPLOTYPES OF THE TNFRSF11B GENE
;  FILE REFERENCE: TNFRSF11B_MWH-0001US (CIP)
;  CURRENT APPLICATION NUMBER: US/10/044,674
;  CURRENT FILING DATE:  2002-01-09
;  PRIOR APPLICATION NUMBER: PCT/US00/18803
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 94
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-044-674-3

  Query Match             99.7%;  Score 2192;  DB 14;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 4.2e-175;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 13
US-10-322-673-5
; Sequence 5, Application US/10322673
; Publication No. US20030180296A1
; GENERAL INFORMATION:
;  APPLICANT: Salcedo et al.
;  TITLE OF INVENTION: Antibodies that Immunospecifically Bind to TRAIL
;  TITLE OF INVENTION:  Receptors
;  FILE REFERENCE: PF585
;  CURRENT APPLICATION NUMBER: US/10/322,673
;  CURRENT FILING DATE:  2002-12-19
;  PRIOR APPLICATION NUMBER: 60/341,237
;  PRIOR FILING DATE: 2001-12-20
;  PRIOR APPLICATION NUMBER: 60/369,877
;  PRIOR FILING DATE: 2002-04-05
;  PRIOR APPLICATION NUMBER: 60/384,828
;  PRIOR FILING DATE: 2002-06-04
;  PRIOR APPLICATION NUMBER: 60/396,591
```

```
;  PRIOR FILING DATE: 2002-07-18
;  PRIOR APPLICATION NUMBER: 60/403,370
;  PRIOR FILING DATE: 2002-08-15
;  PRIOR APPLICATION NUMBER: 60/425,737
;  PRIOR FILING DATE: 2002-11-13
;  NUMBER OF SEQ ID NOS: 72
; SEQ ID NO 5
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-322-673-5

  Query Match             99.7%;  Score 2192;  DB 14;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 4.2e-175;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 14
US-10-139-785-5
; Sequence 5, Application US/10139785
; Publication No. US20030190685A1
; GENERAL INFORMATION:
;  APPLICANT: Salcedo et al.
;  TITLE OF INVENTION: Antibodies that Immunospecifically Bind to TRAIL
;  TITLE OF INVENTION:  Receptors
;  FILE REFERENCE: PF550
;  CURRENT APPLICATION NUMBER: US/10/139,785
;  CURRENT FILING DATE:  2002-05-07
;  PRIOR APPLICATION NUMBER: 60/369,860
;  PRIOR FILING DATE: 2002-04-05
;  PRIOR APPLICATION NUMBER: 60/341,237
;  PRIOR FILING DATE: 2001-12-20
;  PRIOR APPLICATION NUMBER: 60/331,310
;  PRIOR FILING DATE: 2001-11-14
;  PRIOR APPLICATION NUMBER: 60/331,044
;  PRIOR FILING DATE: 2001-11-07
;  PRIOR APPLICATION NUMBER: 60/327,364
;  PRIOR FILING DATE: 2001-10-09
;  PRIOR APPLICATION NUMBER: 60/323,807
;  PRIOR FILING DATE: 2001-09-21
;  PRIOR APPLICATION NUMBER: 60/309,176
;  PRIOR FILING DATE: 2001-08-02
;  PRIOR APPLICATION NUMBER: 60/294,981
;  PRIOR FILING DATE: 2001-06-04
;  PRIOR APPLICATION NUMBER: 60/293,473
;  PRIOR FILING DATE: 2001-05-25
;  NUMBER OF SEQ ID NOS: 66
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 5
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-139-785-5

  Query Match             99.7%;  Score 2192;  DB 14;  Length 401;
  Best Local Similarity   99.8%;  Pred. No. 4.2e-175;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              ||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


RESULT 15
US-10-895-676-2
; Sequence 2, Application US/10895676
; Publication No. US20050032172A1
;  GENERAL INFORMATION:
;       APPLICANT: McCarthy, Sean A.
;                  Holtzman, Douglas
;       TITLE OF INVENTION: NOVEL MOLECULES OF THE FTHMA-070-
;                           RELATED PROTEIN FAMILY AND THE T85-RELATED PROTEIN
;                           FAMILY AND USES THEREOF
;       NUMBER OF SEQUENCES: 18
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Fish & Richardson P.C.
;            STREET: 225 Franklin Street
;            CITY: Boston
;            STATE: MA
;            COUNTRY: USA
;            ZIP: 02110-2804
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Diskette
;            COMPUTER: IBM Compatible
;            OPERATING SYSTEM: DOS
;            SOFTWARE: FastSEQ for Windows Version 2.0
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/895,676
;            FILING DATE: 21-Jul-2004
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/10/105,934
;            FILING DATE: 25-Mar-2002
;            APPLICATION NUMBER: US/09/062,389
;            FILING DATE: 17-APR-1998
```

```
;             APPLICATION NUMBER: 60/062,017
;             FILING DATE: 10-OCT-1997
;             APPLICATION NUMBER: 60/044,746
;             FILING DATE: 18-APR-1997
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Meiklejohn, Anita L.
;             REGISTRATION NUMBER: 35,283
;             REFERENCE/DOCKET NUMBER: 09404/051001
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 617/542-5070
;             TELEFAX: 617/542-8906
;             TELEX: 200154
;   INFORMATION FOR SEQ ID NO: 2:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 401 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        FRAGMENT TYPE: internal
;        SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-895-676-2

  Query Match            99.7%;  Score 2192;  DB 17;  Length 401;
  Best Local Similarity  99.8%;  Pred. No. 4.2e-175;
  Matches  400;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNKLLCCALVFLDISIKWTTQETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKT 60

Qy         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 VCAPCPDHYYTDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLK 120

Qy        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HRSCPPGFGVVQAGTPERNTVCKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNAT 180

Qy        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 HDNICSGNSESTQKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERI 240

Qy        241 KRQHSSQEQTFQLLKLWKHQNKAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Db        241 KRQHSSQEQTFQLLKLWKHQNKDQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLME 300

Qy        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SLPGKKVGAEDIEKTIKACKPSDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKT 360

Qy        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401
              |||||||||||||||||||||||||||||||||||||||||
Db        361 VTQSLKKTIRFLHSFTMYKLYQKLFLEMIGNQVQSVKISCL 401


Search completed: November 14, 2005, 23:23:56
Job time : 116.585 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 22:25:59 ; Search time 55.0676 Seconds
(without alignments)
1264.207 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_201
Perfect score: 1046
Sequence: 1 ETFPPKYLHYDEETSHQLLC.....DNICSGNSESTQKCGIDVTL 180

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1046	100.0	272	2	AAR99944	Aar99944 Mutated O
2	1046	100.0	321	2	AAR99949	Aar99949 Mutated O
3	1046	100.0	327	2	AAR99941	Aar99941 Mutated O
4	1046	100.0	349	2	AAW83928	Aaw83928 Human FTH
5	1046	100.0	351	2	AAR99943	Aar99943 Mutated O
6	1046	100.0	373	6	ABG73071	Abg73071 Human ost
7	1046	100.0	380	2	AAR99924	Aar99924 Mature os
8	1046	100.0	380	4	AAB66988	Aab66988 Murine OP
9	1046	100.0	380	6	AAO19638	Aao19638 Human mil
10	1046	100.0	380	7	ADF15245	Adf15245 Human alb
11	1046	100.0	380	8	ADM28827	Adm28827 Human ost
12	1046	100.0	380	8	ADM28860	Adm28860 Human ost
13	1046	100.0	381	8	ADM28870	Adm28870 Human OPG
14	1046	100.0	382	8	ADM28869	Adm28869 Human OPG
15	1046	100.0	385	8	ADM28876	Adm28876 Human OPG
16	1046	100.0	390	2	AAR99357	Aar99357 Human tum
17	1046	100.0	391	2	AAW53238	Aaw53238 Human OCI
18	1046	100.0	391	8	ADM28877	Adm28877 Human OPG
19	1046	100.0	393	2	AAR99948	Aar99948 Mutated O
20	1046	100.0	395	2	AAW57636	Aaw57636 Modified
21	1046	100.0	395	3	AAB18716	Aab18716 Carboxy t
22	1046	100.0	399	2	AAR99942	Aar99942 Mutated O
23	1046	100.0	400	6	ABU08820	Abu08820 Human ost
24	1046	100.0	401	2	AAR99925	Aar99925 Full leng
25	1046	100.0	401	2	AAR99934	Aar99934 Mutated O
26	1046	100.0	401	2	AAR99932	Aar99932 Mutated O
27	1046	100.0	401	2	AAW38345	Aaw38345 Human ost
28	1046	100.0	401	2	AAW53239	Aaw53239 Human OCI
29	1046	100.0	401	2	AAY05742	Aay05742 Tumour ne
30	1046	100.0	401	2	AAW95030	Aaw95030 Tumour ne
31	1046	100.0	401	2	AAW83926	Aaw83926 Human FTH
32	1046	100.0	401	3	AAY43400	Aay43400 Osteoprot
33	1046	100.0	401	3	AAY88622	Aay88622 Osteoclas
34	1046	100.0	401	3	AAB18715	Aab18715 A human t
35	1046	100.0	401	4	AAB60570	Aab60570 Human TNF
36	1046	100.0	401	4	AAB66976	Aab66976 Human OPG
37	1046	100.0	401	5	ABG71823	Abg71823 Wild type
38	1046	100.0	401	6	ABP55109	Abp55109 Human ost
39	1046	100.0	401	6	AAE34363	Aae34363 Human ost
40	1046	100.0	401	6	AAE36245	Aae36245 Human TRA
41	1046	100.0	401	6	AAO31135	Aao31135 Human TRA
42	1046	100.0	401	6	ABP70997	Abp70997 Human ost
43	1046	100.0	401	7	ADD01627	Add01627 Human ost
44	1046	100.0	401	7	ADD01625	Add01625 Human ost
45	1046	100.0	401	7	ADD37427	Add37427 Human ost

ALIGNMENTS

RESULT 1
AAR99944
ID AAR99944 standard; protein; 272 AA.
XX
AC AAR99944;
XX
DT 23-APR-1997 (first entry)
XX
DE Mutated OCIF, OCIF-CDD2.
XX
KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW osteoporosis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Peptide 1. .21
FT /note= "Signal peptide"
FT Protein 22. .272
FT /note= "Mature OCIF-CDD2"
XX
PN WO9626217-A1.
XX
PD 29-AUG-1996.
XX
PF 20-FEB-1996; 96WO-JP000374.
XX
PR 20-FEB-1995; 95JP-00054977.
PR 21-JUL-1995; 95JP-00207508.
XX
PA (SNOW) SNOW BRAND MILK PROD CO LTD.
XX
PI Goto M, Tsuda E, Mochizuki S, Yano K, Kobayashi F, Shima N;
PI Yasuda H, Nakagawa N, Morinaga T, Ueda M, Higashio K;
XX
DR WPI; 1996-402320/40.
DR N-PSDB; AAT33174.
XX
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT bone resorption control, esp. treatment of osteoporosis.
XX
PS Claim 68; Page 121-122; 183pp; Japanese.
XX
CC This sequence represents a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence represents OCIF-CDD2 in which amino acids 252-380 of the mature
CC OCIF protein are deleted. The OCIF of the invention has a molecular
CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under

```
CC   non-reducing conditions. The protein is adsorbed onto cation-exchangers
CC   or heparin and its activity is lowered after 10 mins at 70 deg.C or 30
CC   mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful
CC   in the control of bone resorption and therefore in the treatment and
CC   prevention of disorders of bone resorption, e.g. osteoporosis
XX
SQ   Sequence 272 AA;

  Query Match             100.0%;  Score 1046;  DB 2;  Length 272;
  Best Local Similarity   100.0%;  Pred. No. 4.4e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 2
AAR99949
ID   AAR99949 standard; protein; 321 AA.
XX
AC   AAR99949;
XX
DT   23-APR-1997  (first entry)
XX
DE   Mutated OCIF, OCIF-CSph.
XX
KW   Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW   osteoporosis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /note= "Signal peptide"
FT   Protein         22. .321
FT                   /note= "Mature OCIF-CSph"
XX
PN   WO9626217-A1.
XX
PD   29-AUG-1996.
XX
PF   20-FEB-1996;   96WO-JP000374.
XX
PR   20-FEB-1995;   95JP-00054977.
PR   21-JUL-1995;   95JP-00207508.
XX
PA   (SNOW ) SNOW BRAND MILK PROD CO LTD.
XX
PI   Goto M,  Tsuda E,  Mochizuki S,  Yano K,  Kobayashi F,  Shima N;
PI   Yasuda H,  Nakagawa N,  Morinaga T,  Ueda M,  Higashio K;
XX
DR   WPI; 1996-402320/40.
DR   N-PSDB; AAT33179.
XX
PT   DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT   bone resorption control, esp. treatment of osteoporosis.
XX
PS   Claim 83; Page 128-129; 183pp; Japanese.
XX
CC   This sequence represents a mutated version of the full length
CC   osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC   sequence represents OCIF-CSph in which amino acids 298-380 of the mature
CC   OCIF protein are replaced by Ser-Leu-Asp. These changes are caused by the
CC   introduction of a restriction site in the DNA encoding this protein. The
CC   OCIF of the invention has a molecular weight by SDS-PAGE of 60 kD under
CC   reducing conditions and 120 kD under non-reducing conditions. The protein
CC   is adsorbed onto cation-exchangers or heparin and its activity is lowered
CC   after 10 mins at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10
CC   mins at 90 deg.C. OCIF is useful in the control of bone resorption and
CC   therefore in the treatment and prevention of disorders of bone
CC   resorption, e.g. osteoporosis
XX
SQ   Sequence 321 AA;

  Query Match             100.0%;  Score 1046;  DB 2;  Length 321;
  Best Local Similarity   100.0%;  Pred. No. 5.1e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 3
AAR99941
ID   AAR99941 standard; protein; 327 AA.
XX
AC   AAR99941;
XX
DT   23-APR-1997  (first entry)
XX
DE   Mutated OCIF, OCIF-DDD2.
XX
KW   Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW   osteoporosis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /note= "Signal peptide"
FT   Protein         22. .327
FT                   /note= "Mature OCIF-DDD2"
FT   Misc-difference 273. .274
FT                   /note= "Posititon of deletion, delta 253-326"
XX
PN   WO9626217-A1.
XX
PD   29-AUG-1996.
XX
PF   20-FEB-1996;   96WO-JP000374.
XX
PR   20-FEB-1995;   95JP-00054977.
PR   21-JUL-1995;   95JP-00207508.
XX
PA   (SNOW ) SNOW BRAND MILK PROD CO LTD.
XX
PI   Goto M,  Tsuda E,  Mochizuki S,  Yano K,  Kobayashi F,  Shima N;
PI   Yasuda H,  Nakagawa N,  Morinaga T,  Ueda M,  Higashio K;
XX
DR   WPI; 1996-402320/40.
DR   N-PSDB; AAT33171.
XX
PT   DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT   bone resorption control, esp. treatment of osteoporosis.
XX
PS   Claim 59; Page 115-116; 183pp; Japanese.
XX
CC   This sequence represents a mutated version of the full length
```

```
CC   osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC   sequence represents OCIF-DDD2 in which amino acids 253-326 of the mature
CC   OCIF protein are deleted. The OCIF of the invention has a molecular
CC   weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under
CC   non-reducing conditions. The protein is adsorbed onto cation-exchangers
CC   or heparin and its activity is lowered after 10 mins at 70 deg.C or 30
CC   mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful
CC   in the control of bone resorption and therefore in the treatment and
CC   prevention of disorders of bone resorption, e.g. osteoporosis
XX
SQ   Sequence 327 AA;

  Query Match             100.0%;  Score 1046;  DB 2;  Length 327;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 4
AAW83928
ID   AAW83928 standard; protein; 349 AA.
XX
AC   AAW83928;
XX
DT   01-MAR-1999  (first entry)
XX
DE   Human FTHMA-070 partial polypeptide.
XX
KW   FTHMA-070; human; neurological disorder; diagnosis; therapy.
XX
OS   Homo sapiens.
XX
PN   WO9848051-A2.
XX
PD   29-OCT-1998.
XX
PF   17-APR-1998;   98WO-US007714.
XX
PR   18-APR-1997;   97US-0044746P.
PR   10-OCT-1997;   97US-0062017P.
XX
PA   (MILL-) MILLENNIUM BIOTHERAPEUTICS INC.
XX
PI   Mccarthy SA,  Holtzman D;
XX
DR   WPI; 1999-024021/02.
DR   N-PSDB; AAV69279.
XX
PT   New isolated human FTHMA-070 and T85 proteins - used to develop products
PT   for the diagnosis and therapy of disorders involving cellular processes,
PT   e.g. neuronal development.
XX
PS   Disclosure; Fig 2; 127pp; English.
XX
CC   This is the amino acid sequence of a partial human FTHMA-070 polypeptide,
CC   deduced from a partial cDNA (see AAV69279). Full-length FTHMA-070 (see
CC   AAW83926) is claimed. It is a novel protein having homology to tumour
CC   necrosis factor receptor. FTHMA-070 nucleic acids and polypeptides of the
CC   invention are useful as modulating agents in regulating a variety of
CC   cellular processes. They can be used for identifying compounds which bind
CC   to or modulate the activity of the polypeptides (claimed). They can also
CC   be used in screening assays, detection assays (e.g. chromosomal mapping,
CC   tissue typing, forensic biology), predictive medicine (e.g. diagnostic
CC   assays, prognostic assays, monitoring clinical trials, and
CC   pharmacogenomics), and methods of treatment (e.g. therapeutic and
CC   prophylactic) e.g. for neurological disorders
XX
SQ   Sequence 349 AA;

  Query Match             100.0%;  Score 1046;  DB 2;  Length 349;
  Best Local Similarity   100.0%;  Pred. No. 5.6e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         44 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 103

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        104 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 163

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        164 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 223


RESULT 5
AAR99943
ID   AAR99943 standard; protein; 351 AA.
XX
AC   AAR99943;
XX
DT   23-APR-1997  (first entry)
XX
DE   Mutated OCIF, OCIF-CC.
XX
KW   Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW   osteoporosis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /note= "Signal peptide"
FT   Protein         22. .351
FT                   /note= "Mature OCIF-CC"
XX
PN   WO9626217-A1.
XX
PD   29-AUG-1996.
XX
PF   20-FEB-1996;   96WO-JP000374.
XX
PR   20-FEB-1995;   95JP-00054977.
PR   21-JUL-1995;   95JP-00207508.
XX
PA   (SNOW ) SNOW BRAND MILK PROD CO LTD.
XX
PI   Goto M,  Tsuda E,  Mochizuki S,  Yano K,  Kobayashi F,  Shima N;
PI   Yasuda H,  Nakagawa N,  Morinaga T,  Ueda M,  Higashio K;
XX
DR   WPI; 1996-402320/40.
DR   N-PSDB; AAT33173.
XX
PT   DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT   bone resorption control, esp. treatment of osteoporosis.
XX
PS   Claim 65; Page 119-121; 183pp; Japanese.
XX
CC   This sequence represents a mutated version of the full length
CC   osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC   sequence represents OCIF-CC in which amino acids 331-380 of the mature
CC   OCIF protein are deleted. The OCIF of the invention has a molecular
CC   weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under
CC   non-reducing conditions. The protein is adsorbed onto cation-exchangers
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CC   or heparin and its activity is lowered after 10 mins at 70 deg.C or 30
CC   mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful
CC   in the control of bone resorption and therefore in the treatment and
CC   prevention of disorders of bone resorption, e.g. osteoporosis
XX
SQ   Sequence 351 AA;

  Query Match             100.0%;  Score 1046;  DB 2;  Length 351;
  Best Local Similarity   100.0%;  Pred. No. 5.6e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 6
ABG73071
ID   ABG73071 standard; protein; 373 AA.
XX
AC   ABG73071;
XX
DT   31-MAR-2003  (first entry)
XX
DE   Human osteoclastogenesis inhibitory factor OPG-372 polypeptide.
XX
KW   Human; osteoclastogenesis inhibitory factor; OPG-372; osteoporosis;
KW   hypercalcaemia.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 73. .75
FT                   /note= "Encoded by TCAAGCAGG"
FT   Misc-difference 222
FT                   /note= "Encoded by CGG"
FT   Misc-difference 263
FT                   /note= "Encoded by CGG"
XX
PN   WO200298908-A2.
XX
PD   12-DEC-2002.
XX
PF   20-MAR-2002; 2002WO-IB002134.
XX
PR   21-MAR-2001; 2001CN-00105706.
XX
PA   (GENE-) GENEMEDIX PLC.
XX
PI   Wu X;
XX
DR   WPI; 2003-140587/13.
DR   N-PSDB; ABX15325.
XX
PT   New osteoclastogenesis inhibitory factor OPG-372 applicable in diagnosis
PT   of, and developing drugs for treating, osteoporosis and hypercalcemia.
XX
PS   Claim 1; Fig 9; 30pp; Chinese.
XX
CC   The invention relates to a human osteoclastogenesis inhibitory factor OPG
CC   -372 polypeptide and the polynucleotide encoding it. The polypeptide, the
CC   polynucleotide and an antibody binding specifically with the polypeptide
CC   are applicable in diagnosis of osteoporosis and hypercalcaemia, and in
CC   drug compositions and for screening candidate compounds for treating
CC   osteoporosis and hypercalcaemia. This sequence represents the human OPG-
CC   372 polypeptide
XX
SQ   Sequence 373 AA;

  Query Match             100.0%;  Score 1046;  DB 6;  Length 373;
  Best Local Similarity   100.0%;  Pred. No. 6e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 61

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         62 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 121

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        122 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 181


RESULT 7
AAR99924
ID   AAR99924 standard; protein; 380 AA.
XX
AC   AAR99924;
XX
DT   22-APR-1997  (first entry)
XX
DE   Mature osteoclastogenesis inhibitory factor.
XX
KW   Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW   osteoporosis.
XX
OS   Homo sapiens.
XX
PN   WO9626217-A1.
XX
PD   29-AUG-1996.
XX
PF   20-FEB-1996;   96WO-JP000374.
XX
PR   20-FEB-1995;   95JP-00054977.
PR   21-JUL-1995;   95JP-00207508.
XX
PA   (SNOW ) SNOW BRAND MILK PROD CO LTD.
XX
PI   Goto M,  Tsuda E,  Mochizuki S,  Yano K,  Kobayashi F,  Shima N;
PI   Yasuda H,  Nakagawa N,  Morinaga T,  Ueda M,  Higashio K;
XX
DR   WPI; 1996-402320/40.
DR   N-PSDB; AAT36685.
XX
PT   DNA encoding osteoclastogenesis inhibitory factor protein - useful for
PT   bone resorption control, esp. treatment of osteoporosis.
XX
PS   Claim 6; Page 62-64; 183pp; Japanese.
XX
CC   This sequence represents the mature osteoclastogenesis inhibitory factor
CC   (OCIF) of the invention. The OCIF has a molecular weight by SDS-PAGE of
CC   60 kD under reducing conditions and 120 kD under non- reducing
CC   conditions. The protein is adsorbed onto cation-exchangers or heparin and
CC   its activity is lowered after 10 mins at 70 deg.C or 30 mins at 56 deg.C,
CC   and is lost after 10 mins at 90 deg.C. OCIF is useful in the control of
CC   bone resorption and therefore in the treatment and prevention of
CC   disorders of bone resorption, e.g. osteoporosis
XX
SQ   Sequence 380 AA;

  Query Match             100.0%;  Score 1046;  DB 2;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
```

```
Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
```

RESULT 8
AAB66988
ID AAB66988 standard; protein; 380 AA.
XX
AC AAB66988;
XX
DT 19-APR-2001 (first entry)
XX
DE Murine OPG cysteine-rich domain.
XX
KW Bone loss; osteoprotegerin; OPG; rheumatoid arthritis; hyperalgesia;
KW multiple sclerosis; osteoporosis; osteomyelitis; asthma; inflammation;
KW systemic lupus erythematosus; graft-versus-host disease; septic shock;
KW acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;
KW coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
KW endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
KW ischaemia; Parkinson's disease.
XX
OS Mus sp.
XX
PN WO200103719-A2.
XX
PD 18-JAN-2001.
XX
PF 07-JUL-2000; 2000WO-US018667.
XX
PR 09-JUL-1999; 99US-00350670.
PR 09-DEC-1999; 99US-00457647.
XX
PA (AMGE-) AMGEN INC.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M, Senaldi G;
XX
DR WPI; 2001-103031/11.
XX
PT Treating conditions leading to bone loss such as rheumatoid arthritis,
PT multiple sclerosis and asthma, comprises administering an osteoprotegerin
PT protein in conjunction with e.g. inhibitors of interleukin and tumor
PT necrosis factor alpha.
XX
PS Disclosure; Fig 12; 316pp; English.
XX
CC The present invention relates to a method for treating conditions leading
CC to bone loss. The method comprises administering a purified and isolated
CC osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
CC in conjunction with other substances such as tumour necrosis factor-alpha
CC (TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors, ICE
CC modulators, fibroblast growth factor (FGF)1-10 modulators and/or platelet
CC activating factor (PAF) antagonists. The method is useful for treating
CC conditions leading to bone loss such as rheumatoid arthritis, multiple
CC sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
CC useful for treating inflammation, systemic lupus erythematosus (SLE) and
CC graft-versus-host disease (GvHD). Other diseases that can be treated
CC include acute pancreatitis, Alzheimer's disease, anorexia,
CC atherosclerosis, coronary conditions (e.g. myocardial infarction),
CC cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
CC inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
CC psoriasis and septic shock
XX
SQ Sequence 380 AA;

```
  Query Match             100.0%;  Score 1046;  DB 4;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
```

RESULT 9
AAO19638
ID AAO19638 standard; protein; 380 AA.
XX
AC AAO19638;
XX
DT 13-FEB-2003 (first entry)
XX
DE Human milk osteoprotegerin mature protein.
XX
KW Human; milk; osteoprotegerin; bone metabolism; immune function; OPG;
KW OCIF; TR1; osteoclastogenesis inhibitory factor; osteomyelitis;
KW TNF-receptor-like molecule 1; osteoporosis; osteopenia; hypercalcaemia;
KW Paget's disease of bone; osteonecrosis; osteopathic; cytostatic;
KW antiarthritic; antirheumatic; antiallergic; immunosuppressive;
KW antiinflammatory; dermatological; cardiant.
XX
OS Homo sapiens.
XX
PN WO200281521-A2.
XX
PD 17-OCT-2002.
XX
PF 15-MAR-2002; 2002WO-EP002912.
XX
PR 03-APR-2001; 2001EP-00108414.
XX
PA (NEST) SOC PROD NESTLE SA.
XX
PI Vidal K, Van Den Broek P, Offord Cavin E, Donnet-Hugues A;
XX
DR WPI; 2003-058506/05.
DR N-PSDB; AAL50347.
XX
PT Osteoprotegerin obtainable from human and bovine milk useful for
PT preparing ingestible preparations and pharmaceutical compositions for
PT preventing or treating disorders associated with bone metabolism and
PT immune function.
XX
PS Example; Fig 7; 32pp; English.
XX
CC The present invention relates to osteoprotegerin (OPG, also known as
CC osteoclastogenesis inhibitory factor, OCIF, and TNF-receptor-like
CC molecule 1, TR1). In particular, the invention relates to versions of the
CC protein isolated from human and bovine milk. OPG is useful for the
CC manufacture of an ingestible preparation, such as a food material like
CC milk, yogurt, curd, cheese, fermented milks, milk-based fermented
CC products, ice-creams, fermented cereal-based products, milk-based
CC powders, infant formulae and pet food, and an enteral composition or
CC pharmaceutical composition. OPG is useful for preparing material or
CC composition for the development of bone material and/or the immune
CC system, and for the treatment of disorders associated with bone
CC remodeling. Such disorders include osteoporosis, Paget's disease of bone,
CC osteomyelitis, infectious lesions in bone leading to bone loss,
CC hypercalcaemia, osteopenia, osteonecrosis, bone loss due to

```
CC   osteoarthritis or rheumatoid arthritis, periodontal bone loss and/or
CC   osteolytic metastasis. OPG is also useful for preparing a food material
CC   or pharmaceutical composition for the treatment of and/or prophylaxis of
CC   immune disorders such as allergy, autoimmunity, inflammatory bowel
CC   diseases, systemic autoimmune conditions, dysregulation of cell
CC   proliferation and apoptosis, and immunopathological conditions of the
CC   skin, the oral cavity, gastrointestinal, urogenital or respiratory
CC   tracts, and also disorders associated with prematurity and/or low birth
CC   weight. The present sequence is the mature OPG protein isolated from
CC   human milk
XX
SQ   Sequence 380 AA;

  Query Match             100.0%;  Score 1046;  DB 6;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180


RESULT 10
ADF15245
ID   ADF15245 standard; protein; 380 AA.
XX
AC   ADF15245;
XX
DT   12-FEB-2004  (first entry)
XX
DE   Human albumin fusion protein-related protein SeqID543.
XX
KW   albumin fusion protein; albumin activity; human serum albumin;
KW   serum osmotic pressure; shelf-life; stability; antidiabetic;
KW   gene therapy; diabetes mellitus; human; gene; ds.
XX
OS   Homo sapiens.
XX
PN   WO2003060071-A2.
XX
PD   24-JUL-2003.
XX
PF   23-DEC-2002; 2002WO-US040891.
XX
PR   21-DEC-2001; 2001US-0341811P.
PR   24-JAN-2002; 2002US-0350358P.
PR   28-JAN-2002; 2002US-0351360P.
PR   26-FEB-2002; 2002US-0359370P.
PR   28-FEB-2002; 2002US-0360000P.
PR   27-MAR-2002; 2002US-0367500P.
PR   08-APR-2002; 2002US-0370227P.
PR   10-MAY-2002; 2002US-0378950P.
PR   24-MAY-2002; 2002US-0382617P.
PR   28-MAY-2002; 2002US-0383123P.
PR   05-JUN-2002; 2002US-0385708P.
PR   10-JUL-2002; 2002US-0394625P.
PR   24-JUL-2002; 2002US-0398008P.
PR   09-AUG-2002; 2002US-0402131P.
PR   13-AUG-2002; 2002US-0402708P.
PR   18-SEP-2002; 2002US-0411355P.
PR   18-SEP-2002; 2002US-0411426P.
PR   02-OCT-2002; 2002US-0414984P.
PR   11-OCT-2002; 2002US-0417611P.
PR   23-OCT-2002; 2002US-0420246P.
PR   05-NOV-2002; 2002US-0423623P.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
PA   (DELZ ) DELTA BIOTECHNOLOGY LTD.
PA   (PRIN-) PRINCIPIA PHARM CORP.
XX
PI   Ballance DJ,  Turner AJ,  Rosen CA,  Haseltine WA;
XX
DR   WPI; 2003-598517/56.
DR   N-PSDB; ADF15810.
XX
PT   New albumin fusion protein, useful for preparing a composition for
PT   treating diabetes mellitus.
XX
PS   Example 4; SEQ ID NO 543; 24pp; English.
XX
CC   This invention relates to a novel albumin fusion protein having albumin
CC   or biological activity. Human serum albumin is responsible for a
CC   significant proportion of the osmotic pressure of serum and also
CC   functions as a carrier of endogenous and exogenous ligands. The fusion of
CC   albumin to a therapeutic protein may increase shelf-life and stability of
CC   the therapeutic protein. The albumin fusion protein of the invention may
CC   allow production of compositions with antidiabetic activity whilst the
CC   nucleotide sequence which encodes it may be useful for gene therapy. The
CC   albumin fusion protein is useful for preparing a composition for treating
CC   diabetes mellitus. The present sequence is that of a therapeutic protein
CC   which was fused with human albumin to create a novel albumin fusion
CC   protein of the invention. Note: The sequence data for this patent did not
CC   form part of the printed specification, but was obtained in electronic
CC   format directly from WIPO at ftp.wipo.int/pub/publishedpct_sequences
XX
SQ   Sequence 380 AA;

  Query Match             100.0%;  Score 1046;  DB 7;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180


RESULT 11
ADM28827
ID   ADM28827 standard; protein; 380 AA.
XX
AC   ADM28827;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human osteoprotegerin cysteine-rich domains 1-4 plus C-terminus #1.
XX
KW   Mouse; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic.
XX
OS   Mus sp.
XX
PN   US2003207827-A1.
XX
```

PD 06-NOV-2003.
XX
PF 24-SEP-1999; 99US-00405032.
XX
PR 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00771777.
PR 12-AUG-1998; 98US-00132985.
XX
PA (BOYL/) BOYLE W J.
PA (LACE/) LACEY D L.
PA (CALZ/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
DR WPI; 2004-041572/04.
XX
PT Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS Disclosure; SEQ ID NO 139; 141pp; English.
XX
CC The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC vector, a transgenic mammal comprising the cell, producing OPG, a
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample
CC which involves incubating the sample with Ab under conditions that allow
CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG protein (or fragment).
XX
SQ Sequence 380 AA;

Query Match 100.0%; Score 1046; DB 8; Length 380;
Best Local Similarity 100.0%; Pred. No. 6.1e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
Db 1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
Db 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy 121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

RESULT 12
ADM28860
ID ADM28860 standard; protein; 380 AA.
XX
AC ADM28860;
XX
DT 20-MAY-2004 (first entry)
XX
DE Human osteoprotegerin cysteine-rich domains 1-4 plus C-terminus #2.
XX
KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW Riley-day syndrome; immobilisation of extremity; tumour;
KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW osteoprotegerin; transgenic.
XX
OS Homo sapiens.
XX
PN US2003207827-A1.
XX
PD 06-NOV-2003.
XX
PF 24-SEP-1999; 99US-00405032.
XX
PR 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00771777.
PR 12-AUG-1998; 98US-00132985.
XX
PA (BOYL/) BOYLE W J.
PA (LACE/) LACEY D L.
PA (CALZ/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
DR WPI; 2004-041572/04.
XX
PT Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS Example 6; Fig 12; 141pp; English.
XX
CC The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC vector, a transgenic mammal comprising the cell, producing OPG, a
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample

CC which involves incubating the sample with Ab under conditions that allow
CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG protein (or fragment).
XX
SQ Sequence 380 AA;

Query Match 100.0%; Score 1046; DB 8; Length 380;
Best Local Similarity 100.0%; Pred. No. 6.1e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
```

RESULT 13
ADM28870
ID ADM28870 standard; protein; 381 AA.
XX
AC ADM28870;
XX
DT 20-MAY-2004 (first entry)
XX
DE Human OPG truncation mutant, OPG met[22-401].
XX
KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW Riley-day syndrome; immobilisation of extremity; tumour;
KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW osteoprotegerin; transgenic; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN US2003207827-A1.
XX
PD 06-NOV-2003.
XX
PF 24-SEP-1999; 99US-00405032.
XX
PR 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00771777.
PR 12-AUG-1998; 98US-00132985.
XX
PA (BOYL/) BOYLE W J.
PA (LACE/) LACEY D L.
PA (CALZ/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
DR WPI; 2004-041572/04.
XX
PT Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS Claim 37; Page; 141pp; English.
XX
CC The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC vector, a transgenic mammal comprising the cell, producing OPG, a
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample
CC which involves incubating the sample with Ab under conditions that allow
CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG truncation/deletion or
CC substitution mutant protein (or fragment).
XX
SQ Sequence 381 AA;

Query Match 100.0%; Score 1046; DB 8; Length 381;
Best Local Similarity 100.0%; Pred. No. 6.1e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db          2 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 61

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db         62 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 121

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        122 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 181


RESULT 14
ADM28869
ID   ADM28869 standard; protein; 382 AA.
XX
AC   ADM28869;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human OPG truncation mutant, OPG met-lys[22-401].
XX
KW   Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;   99US-00405032.
XX
PR   22-DEC-1995;   95US-00577788.
PR   03-SEP-1996;   96US-00706945.
PR   20-DEC-1996;   96US-00771777.
PR   12-AUG-1998;   98US-00132985.
XX
PA   (BOYL/) BOYLE W J.
PA   (LACE/) LACEY D L.
PA   (CALZ/) CALZONE F J.
PA   (CHAN/) CHANG M.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
XX
DR   WPI; 2004-041572/04.
XX
PT   Novel osteoprotegerin useful for treating conditions resulting in bone
PT   loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT   loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS   Claim 37; Page; 141pp; English.
XX
CC   The invention relates to a purified and isolated polypeptide having
CC   osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC   having amino terminus at residue 22, and 1-216 amino acids are deleted
CC   from carboxy terminus of human OPG polypeptide. Also included are an
CC   isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC   vector comprising OPG NA, a host cell transformed or transfected with the
CC   vector, a transgenic mammal comprising the cell, producing OPG, a
CC   polypeptide comprising an amino acid sequence of at least about 164 amino
CC   acids comprising four cysteine-rich domains characteristic of the
CC   cysteine rich domains of tumour necrosis factor receptor extracellular
CC   regions (and an activity of increasing bone density), an antibody (Ab) or
CC   its fragment which specifically binds to OPG, a composition comprising
CC   OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC   and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC   Ab is useful for detecting the presence of OPG in a biological sample
CC   which involves incubating the sample with Ab under conditions that allow
CC   binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC   assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC   useful for regulating the levels of OPG in an animal (human). The nucleic
CC   acid promotes an increasing in tissue level of OPG. OPG is useful for
CC   treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC   disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC   osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC   osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC   method further involves administering a substance chosen from bone
CC   morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC   inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC   parathyroid hormone related protein and their analogues, E series of
CC   prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC   useful for treating osteoporosis such as primary osteoporosis, endocrine
CC   osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC   hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC   , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC   osteoporosis due to immobilisation of extremities, hypercalcaemia
CC   resulting from solid tumours and haematologic malignancies (multiple
CC   myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC   hypercalcaemia associated with hyperthyroidism and renal function
CC   disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC   death. The present sequences is an OPG truncation/deletion or
CC   substitution mutant protein (or fragment).
XX
SQ   Sequence 382 AA;

  Query Match             100.0%;  Score 1046;  DB 8;  Length 382;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-76;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          3 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 62

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         63 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 122

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        123 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 182


RESULT 15
ADM28876
ID   ADM28876 standard; protein; 385 AA.
XX
AC   ADM28876;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human OPG truncation mutant, OPG met-met-(lys)3[22-401].
XX
KW   Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;   99US-00405032.
XX
PR   22-DEC-1995;   95US-00577788.
```

PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00771777.
PR 12-AUG-1998; 98US-00132985.
XX
PA (BOYL/) BOYLE W J.
PA (LACE/) LACEY D L.
PA (CALZ/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
DR WPI; 2004-041572/04.
XX
PT Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS Claim 37; Page; 141pp; English.
XX
CC The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC vector, a transgenic mammal comprising the cell, producing OPG, a
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample
CC which involves incubating the sample with Ab under conditions that allow
CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG truncation/deletion or
CC substitution mutant protein (or fragment).
XX
SQ Sequence 385 AA;

Query Match 100.0%; Score 1046; DB 8; Length 385;
Best Local Similarity 100.0%; Pred. No. 6.2e-76;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          6 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 65

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         66 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 125

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        126 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 185
```

Search completed: November 14, 2005, 23:12:01
Job time : 56.0676 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 22:30:05 ; Search time 52.2581 Seconds
(without alignments)
1763.828 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_201
Perfect score: 1046
Sequence: 1 ETFPPKYLHYDEETSHQLLC.....DNICSGNSESTQKCGIDVTL 180

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1046	100.0	401	1	T11B_HUMAN	O00300 homo sapien
2	929	88.8	401	2	Q6PI12	Q6pi12 mus musculu
3	925	88.4	401	1	T11B_MOUSE	O08712 mus musculu
4	912	87.2	401	1	T11B_RAT	O08727 rattus norv
5	587.5	56.2	387	2	Q6GLN3	Q6gln3 xenopus lae
6	525	50.2	146	2	Q7ZZY4	Q7zzy4 gallus gall
7	450	43.0	186	2	Q7ZZY5	Q7zzy5 gallus gall
8	433.5	41.4	300	1	TR6B_HUMAN	O95407 homo sapien
9	405.5	38.8	302	2	Q9PUS0	Q9pus0 salvelinus
10	377	36.0	285	2	Q90W71	Q90w71 oncorhynchu
11	369	35.3	285	2	Q90YS6	Q90ys6 oncorhynchu
12	360	34.4	286	2	Q6NW61	Q6nw61 brachydanio
13	332.5	31.8	459	2	Q62327	Q62327 mus musculu
14	330	31.5	461	1	TR1B_HUMAN	P20333 h tumor nec
15	329.5	31.5	474	1	TR1B_MOUSE	P25119 mus musculu
16	317.5	30.4	433	2	Q91ZM6	Q91zm6 rattus norv
17	317.5	30.4	461	2	Q6VAU8	Q6vau8 rattus norv
18	317.5	30.4	474	1	TR1B_RAT	Q80wy6 rattus norv
19	310	29.6	651	2	Q98SM6	Q98sm6 gallus gall
20	298	28.5	483	2	Q800K7	Q800k7 paralichthy
21	297	28.4	457	2	Q8IVS6	Q8ivs6 homo sapien
22	293	28.0	655	1	TR21_MOUSE	Q9epu5 mus musculu
23	287	27.4	655	1	TR21_HUMAN	O75509 homo sapien
24	284	27.2	289	1	TNR5_MOUSE	P27512 mus musculu
25	284	27.2	289	2	Q8K2X6	Q8k2x6 mus musculu
26	271	25.9	467	2	Q800I0	Q800i0 gallus gall
27	270	25.8	169	2	Q9JKE0	Q9jke0 rattus norv
28	267	25.5	278	2	Q8SQ34	Q8sq34 sus scrofa
29	267	25.5	462	2	Q805B0	Q805b0 gallus gall
30	265	25.3	276	2	Q9DDD2	Q9ddd2 gallus gall
31	264	25.2	223	2	Q86YK5	Q86yk5 homo sapien
32	264	25.2	277	1	TNR5_HUMAN	P25942 homo sapien
33	252.5	24.1	616	1	TR11_HUMAN	Q9y6q6 homo sapien
34	252.5	24.1	625	1	TR11_MOUSE	O35305 mus musculu
35	250	23.9	318	2	Q7T2H3	Q7t2h3 oncorhynchu
36	249	23.8	269	1	TNR5_BOVIN	Q28203 bos taurus
37	248	23.7	277	2	Q8WMQ2	Q8wmq2 ovis aries
38	246	23.5	274	2	Q7YRL5	Q7yrl5 canis famil
39	239.5	22.9	275	2	Q80WM9	Q80wm9 mus musculu
40	239.5	22.9	276	2	Q71F55	Q71f55 mus musculu
41	239.5	22.9	349	2	O57099	O57099 monkeypox v
42	239.5	22.9	435	1	TNR3_HUMAN	P36941 homo sapien
43	237.5	22.7	349	2	O57100	O57100 monkeypox v
44	237.5	22.7	349	2	O57101	O57101 monkeypox v
45	237.5	22.7	349	2	O57102	O57102 monkeypox v

ALIGNMENTS

RESULT 1
T11B_HUMAN
ID T11B_HUMAN STANDARD; PRT; 401 AA.
AC O00300; O60236; Q9UHP4;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 25-JAN-2005 (Rel. 46, Last annotation update)
DE Tumor necrosis factor receptor superfamily member 11B precursor
DE (Osteoprotegerin) (Osteoclastogenesis inhibitory factor).
GN Name=TNFRSF11B; Synonyms=OCIF, OPG;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Kidney;
RX MEDLINE=97262071; PubMed=9108485; DOI=10.1016/S0092-8674(00)80209-3;
RA Simonet W.S., Lacey D.L., Dunstan C.R., Kelley M., Chang M.-S.,
RA Luethy R., Nguyen H.Q., Wooden S., Bennett L., Boone T., Shimamoto G.,
RA Derose M., Elliott R., Colombero A., Tan H.-L., Trail G., Sullivan J.,
RA Davy E., Bucay N., Renshaw-Gegg L., Hughes T.M., Hill D., Pattison W.,
RA Campbell P., Sander S., Van G., Tarpley J., Derby P., Lee R.,
RA Suggs S., Boyle W.J.;
RT "Osteoprotegerin: a novel secreted protein involved in the regulation
RT of bone density.";
RL Cell 89:309-319(1997).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Lung cancer;
RX MEDLINE=98151033; PubMed=9492069; DOI=10.1210/en.139.3.1329;
RA Yasuda H., Shima N., Nakagawa N., Mochizuki S.-I., Yano K., Fujise N.,
RA Sato Y., Goto M., Yamaguchi K., Kuriyama M., Kanno T., Murakami A.,
RA Tsuda E., Morinaga T., Higashio K.;
RT "Identity of osteoclastogenesis inhibitory factor (OCIF) and
RT osteoprotegerin (OPG): a mechanism by which OPG/OCIF inhibits
RT osteoclastogenesis in vitro.";
RL Endocrinology 139:1329-1337(1998).
RN [3]
RP SEQUENCE FROM N.A., AND VARIANT ASN-3.
RC TISSUE=Placenta;
RX MEDLINE=98351569; PubMed=9688283;
RA Morinaga T., Nakagawa N., Yasuda H., Tsuda E., Higashio K.;
RT "Cloning and characterization of the gene encoding human
RT osteoprotegerin/osteoclastogenesis-inhibitory factor.";
RL Eur. J. Biochem. 254:685-691(1998).
RN [4]
RP SEQUENCE FROM N.A., AND VARIANTS ASN-3 AND MET-104.
RA Livingston R.J., Rieder M.J., Chung M.-W., Ritchie T.K., Olson A.N.,
RA Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D., Schackwitz W.S.,
RA Sherwood J.K., Sherwood A.M., Leithauser B.J., Nickerson D.A.;
RT "NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
RL Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases.

RN [5]
RP SEQUENCE FROM N.A., AND VARIANT ASN-3.
RC TISSUE=Eye;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [6]
RP SEQUENCE OF 22-36 AND 378-401.
RX MEDLINE=98238645; PubMed=9571159; DOI=10.1006/bbrc.1998.8443;
RA Tomoyasu A., Goto M., Fujise N., Mochizuki S.-I., Yasuda H.,
RA Morinaga T., Tsuda E., Higashio K.;
RT "Characterization of monomeric and homodimeric forms of
RT osteoclastogenesis inhibitory factor.";
RL Biochem. Biophys. Res. Commun. 245:382-387(1998).
RN [7]
RP SEQUENCE OF 22-36.
RX PubMed=15340161; DOI=10.1110/ps.04682504;
RA Zhang Z., Henzel W.J.;
RT "Signal peptide prediction based on analysis of experimentally
RT verified cleavage sites.";
RL Protein Sci. 13:2819-2824(2004).
RN [8]
RP SEQUENCE OF 22-393 FROM N.A.
RC TISSUE=Placenta;
RX PubMed=12110935;
RA He Z.-Y., Yang G.-Z., Zhang W.-J., Wu X.-F.;
RT "Cloning and expression of osteoprotegerin from Homo sapiens.";
RL Acta Biochim. Biophys. Sin. 31:680-684(1999).
RN [9]
RP SEQUENCE OF 242-255; 354-359 AND 369-378, AND FUNCTION.
RX MEDLINE=97312536; PubMed=9168977; DOI=10.1006/bbrc.1997.6603;
RA Tsuda E., Goto M., Mochizuki S.-I., Yano K., Kobayashi F.,
RA Morinaga T., Higashio K.;
RT "Isolation of a novel cytokine from human fibroblasts that
RT specifically inhibits osteoclastogenesis.";
RL Biochem. Biophys. Res. Commun. 234:137-142(1997).
RN [10]
RP TRAIL BINDING.
RX MEDLINE=98269100; PubMed=9603945; DOI=10.1074/jbc.273.23.14363;
RA Emery J.G., McDonnell P., Burke M.B., Deen K.C., Lyn S., Silverman C.,
RA Dul E., Appelbaum E.R., Eichman C., DiPrinzio R., Dodds R.A.,
RA James I.E., Rosenberg M., Lee J.C., Young P.R.;
RT "Osteoprotegerin is a receptor for the cytotoxic ligand TRAIL.";
RL J. Biol. Chem. 273:14363-14367(1998).
RN [11]
RP CHARACTERIZATION, AND MUTAGENESIS OF CYS-400.
RX MEDLINE=98148058; PubMed=9478964; DOI=10.1074/jbc.273.9.5117;
RA Yamaguchi K., Kinosaki M., Goto M., Kobayashi F., Tsuda E.,
RA Morinaga T., Higashio K.;
RT "Characterization of structural domains of human osteoclastogenesis
RT inhibitory factor.";
RL J. Biol. Chem. 273:5117-5123(1998).
RN [12]
RP REVIEW.
RX MEDLINE=21395914; PubMed=11505389;
RX DOI=10.1002/1097-0142(20010801)92:3<460::AID-CNCR1344>3.0.CO;2-D;
RA Hofbauer L.C., Neubauer A., Heufelder A.E.;
RT "Receptor activator of nuclear factor-kappaB ligand and
RT osteoprotegerin: potential implications for the pathogenesis and
RT treatment of malignant bone diseases.";
RL Cancer 92:460-470(2001).
RN [13]
RP VARIANT JPD ASP-182 DEL.
RX PubMed=12189164; DOI=10.1093/hmg/11.18.2119;
RA Cundy T., Hegde M., Naot D., Chong B., King A., Wallace R., Mulley J.,
RA Love D.R., Seidel J., Fawkner M., Banovic T., Callon K.E., Grey A.B.,
RA Reid I.R., Middleton-Hardie C.A., Cornish J.;
RT "A mutation in the gene TNFRSF11B encoding osteoprotegerin causes an
RT idiopathic hyperphosphatasia phenotype.";
RL Hum. Mol. Genet. 11:2119-2127(2002).
CC -!- FUNCTION: Acts as decoy receptor for RANKL and thereby neutralizes
CC its function in osteoclastogenesis. Inhibits the activation of
CC osteoclasts and promotes osteoclast apoptosis in vitro. Bone
CC homeostasis seems to depend on the local RANKL/OPG ratio. May also
CC play a role in preventing arterial calcification. May act as decoy
CC receptor for TRAIL and protect against apoptosis. TRAIL binding
CC blocks the inhibition of osteoclastogenesis.
CC -!- SUBUNIT: Homodimer.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Highly expressed in adult lung, heart, kidney,
CC liver, spleen, thymus, prostate, ovary, small intestine, thyroid,
CC lymph node, trachea, adrenal gland, testis, and bone marrow.
CC Detected at very low levels in brain, placenta and skeletal
CC muscle. Highly expressed in fetal kidney, liver and lung.
CC -!- INDUCTION: Up-regulated by increasing calcium-concentration in the
CC medium and estrogens. Down-regulated by glucocorticoids.
CC -!- PTM: N-glycosylated. Contains sialic acid residues.
CC -!- PTM: The N-terminus is blocked.
CC -!- DISEASE: Defects in TNFRSF11B are the cause of juvenile Paget
CC disease (JPD) [MIM:239000]; also called hyperostosis corticalis
CC deformans juvenilis or hereditary hyperphosphatasia or chronic
CC congenital idiopathic hyperphosphatasia. JPD is a rare autosomal
CC recessive osteopathy that presents in infancy or early childhood.
CC The disorder is characterized by rapidly remodeling woven bone,
CC osteopenia, debilitating fractures, and deformities due to a
CC markedly accelerated rate of bone remodeling throughout the
CC skeleton. Approximately 40 cases of JPD have been reported
CC worldwide. Unless it is treated with drugs that block osteoclast-
CC mediated skeletal resorption, the disease can be fatal.
CC -!- SIMILARITY: Contains 2 death domains.
CC -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC --

CC --
DR EMBL; U94332; AAB53709.1; -.
DR EMBL; AB002146; BAA25910.1; -.
DR EMBL; AB008822; BAA32076.1; -.
DR EMBL; AB008821; BAA32076.1; JOINED.
DR EMBL; AY466112; AAR23265.1; -.
DR EMBL; BC030155; AAH30155.1; -.
DR EMBL; AF134187; AAF20168.1; -.
DR HSSP; O14763; 1D0G.
DR Genew; HGNC:11909; TNFRSF11B.
DR H-InvDB; HIX0007748; -.
DR MIM; 602643; -.
DR MIM; 239000; -.
DR GO; GO:0005576; C:extracellular; TAS.
DR GO; GO:0005125; F:cytokine activity; TAS.
DR GO; GO:0004872; F:receptor activity; TAS.
DR GO; GO:0007165; P:signal transduction; TAS.
DR GO; GO:0001501; P:skeletal development; TAS.
DR InterPro; IPR000488; Death.

```
DR   InterPro; IPR011029; DEATH_like.
DR   InterPro; IPR009030; Grow_fac_recept.

  Query Match           100.0%;  Score 1046;  DB 1;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 6.4e-84;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 2
Q6PI12
ID   Q6PI12      PRELIMINARY;      PRT;   401 AA.
AC   Q6PI12;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Tumor necrosis factor receptor superfamily, member 11b
DE   (Osteoprotegerin).
GN   Name=Tnfrsf11b;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Limb;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA   Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA   Jones S.J., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Limb;
RA   Strausberg R.;
RL   Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; BC049782; AAH49782.1; -.
DR   GO; GO:0005578; C:extracellular matrix (sensu Metazoa); IDA.
DR   GO; GO:0005615; C:extracellular space; TAS.
DR   GO; GO:0042489; P:negative regulation of odontogenesis (sensu. . .; IDA.
DR   InterPro; IPR000488; Death.
DR   InterPro; IPR011029; DEATH_like.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 2.
DR   SMART; SM00005; DEATH; 1.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS50017; DEATH_DOMAIN; 1.
DR   PROSITE; PS00652; TNFR_NGFR_1; 1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 2.
KW   Receptor.
SQ   SEQUENCE   401 AA;  45965 MW;  7C708E52EB46BA0E CRC64;

  Query Match           88.8%;  Score 929;  DB 2;  Length 401;
  Best Local Similarity  87.8%;  Pred. No. 1.2e-73;
  Matches  158;  Conservative    8;  Mismatches   14;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              || |||||||| || |||||||| |||||||||| : ||:| ||||| ||||||||||:
Db         22 ETLPPKYLHYDPETGHQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECV 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              |||||||||| ||||||||||||||:|||||||||||||||||| ||||||||||:|||
Db         82 YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEIEFCLKHRSCPPGSGVVQAGTPEQNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||:||||||| |||||||||||||| ||||| |||||||||:|||| |:||||||||||
Db        142 CKKCPDGFFSGETSSKAPCRKHTNCSTFGLLLIQKGNATHDNVCSGNREATQKCGIDVTL 201


RESULT 3
T11B_MOUSE
ID   T11B_MOUSE     STANDARD;      PRT;   401 AA.
AC   O08712; O70202;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Tumor necrosis factor receptor superfamily member 11B precursor
DE   (Osteoprotegerin) (Osteoclastogenesis inhibitory factor).
GN   Name=Tnfrsf11b; Synonyms=OCIF, OPG;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BALB/c; TISSUE=Kidney;
RX   MEDLINE=97262071; PubMed=9108485; DOI=10.1016/S0092-8674(00)80209-3;
RA   Simonet W.S., Lacey D.L., Dunstan C.R., Kelley M., Chang M.-S.,
RA   Luethy R., Nguyen H.Q., Wooden S., Bennett L., Boone T., Shimamoto G.,
RA   Derose M., Elliott R., Colombero A., Tan H.-L., Trail G., Sullivan J.,
RA   Davy E., Bucay N., Renshaw-Gegg L., Hughes T.M., Hill D., Pattison W.,
RA   Campbell P., Sander S., Van G., Tarpley J., Derby P., Lee R.,
RA   Suggs S., Boyle W.J.;
RT   "Osteoprotegerin: a novel secreted protein involved in the regulation
RT   of bone density.";
RL   Cell 89:309-319(1997).
RN   [2]
RP   SEQUENCE FROM N.A., AND VARIANTS PRO-138; ARG-161; ASP-165; ALA-288
RP   AND ARG-296.
RC   STRAIN=129/Ola, and NIH Swiss; TISSUE=Fibroblast;
RX   MEDLINE=98382527; PubMed=9714833; DOI=10.1016/S0378-1119(98)00295-9;
RA   Mizuno A., Murakami A., Nakagawa N., Yasuda H., Tsuda E., Morinaga T.,
RA   Higashio K.;
RT   "Structure of the mouse osteoclastogenesis inhibitory factor (OCIF)
RT   gene and its expression in embryogenesis.";
RL   Gene 215:339-343(1998).
RN   [3]
RP   FUNCTION.
RX   MEDLINE=21060987; PubMed=10952716;
RA   Min H., Morony S., Sarosi I., Dunstan C.R., Capparelli C., Scully S.,
RA   Van G., Kaufman S., Kostenuik P.J., Lacey D.L., Boyle W.J.,
RA   Simonet W.S.;
RT   "Osteoprotegerin reverses osteoporosis by inhibiting endosteal
RT   osteoclasts and prevents vascular calcification by blocking a process
RT   resembling osteoclastogenesis.";
RL   J. Exp. Med. 192:463-474(2000).
CC   -!- FUNCTION: Acts as decoy receptor for RANKL and thereby neutralizes
CC       its function in osteoclastogenesis. Inhibits the activation of
CC       osteoclasts and promotes osteoclast apoptosis in vitro. Bone
```

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CC       homeostasis seems to depend on the local RANKL/OPG ratio. May also
CC       play a role in preventing arterial calcification. May act as decoy
CC       receptor for TRAIL and protect against apoptosis. TRAIL binding
CC       blocks the inhibition of osteoclastogenesis.
CC   -!- SUBUNIT: Homodimer.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Highly expressed in liver, lung, stomach,
CC       intestines and calvaria. Highly expressed in decidua and placenta,
CC       and in embryo.
CC   -!- DEVELOPMENTAL STAGE: Detected in embryo at high levels on day 7,
CC       whereas expression decreases at day 11 and increases from day 15
CC       to 17. On day 15 found in developing bone primordia,
CC       brachiocephalic artery and ductus arteriosus, left main bronchus,
CC       abdominal aorta and midgut.
CC   -!- INDUCTION: Up-regulated by TGF-beta and estrogens. Down-regulated
CC       by 1,25-dihdroxyvitamin D3 and parathyroid hormone.
CC   -!- SIMILARITY: Contains 2 death domains.
CC   -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U94331; AAB53708.1; -.
DR   EMBL; AB013898; BAA28269.1; -.
DR   EMBL; AB013903; BAA33388.1; -.
DR   EMBL; AB013899; BAA33388.1; JOINED.
DR   EMBL; AB013900; BAA33388.1; JOINED.
DR   EMBL; AB013901; BAA33388.1; JOINED.
DR   EMBL; AB013902; BAA33388.1; JOINED.
DR   HSSP; O14763; 1D0G.
DR   MGD; MGI:109587; Tnfrsf11b.
DR   GO; GO:0005578; C:extracellular matrix; IDA.
DR   InterPro; IPR000488; Death.
DR   InterPro; IPR011029; DEATH_like.
DR   InterPro; IPR009030; Grow_fac_recept.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 3.
DR   SMART; SM00005; DEATH; 1.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS50017; DEATH_DOMAIN; 1.
DR   PROSITE; PS00652; TNFR_NGFR_1; 1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 2.
KW   Apoptosis; Glycoprotein; Polymorphism; Receptor; Repeat; Signal.
FT   SIGNAL        1     21       By similarity.
FT   CHAIN        22    401       Tumor necrosis factor receptor
FT                                superfamily member 11B.
FT   REPEAT       24     62       TNFR-Cys 1.
FT   REPEAT       65    105       TNFR-Cys 2.
FT   REPEAT      107    142       TNFR-Cys 3.
FT   REPEAT      145    185       TNFR-Cys 4.
FT   DOMAIN      198    269       Death 1.
FT   DOMAIN      283    365       Death 2.
FT   SITE        400    400       Involved in dimerization (By similarity).
FT   DISULFID     41     54       By similarity.
FT   DISULFID     44     62       By similarity.
FT   DISULFID     65     80       By similarity.
FT   DISULFID     83     97       By similarity.
FT   DISULFID     87    105       By similarity.
FT   DISULFID    107    118       By similarity.
FT   DISULFID    124    142       By similarity.
FT   DISULFID    145    160       By similarity.
FT   DISULFID    166    185       By similarity.
FT   CARBOHYD     98     98       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    165    165       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    178    178       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    289    289       N-linked (GlcNAc. . .) (Potential).
FT   VARIANT     138    138       R -> P (in strain 129/Ola and strain NIH
FT                                Swiss).
FT   VARIANT     161    161       I -> R (in strain 129/Ola and strain NIH
FT                                Swiss).
FT   VARIANT     165    165       N -> D (in strain 129/Ola and strain NIH
FT                                Swiss).
FT   VARIANT     288    288       S -> A (in strain 129/Ola and strain NIH
FT                                Swiss).
FT   VARIANT     296    296       L -> R (in strain 129/Ola and strain NIH
FT                                Swiss).
SQ   SEQUENCE   401 AA;  45923 MW;  CAA6102D3B312470 CRC64;

  Query Match             88.4%;  Score 925;  DB 1;  Length 401;
  Best Local Similarity   87.8%;  Pred. No. 2.8e-73;
  Matches  158;  Conservative    7;  Mismatches   15;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              || |||||||| || |||||||| |||||||||| : ||:| ||||| ||||||||||:
Db         22 ETLPPKYLHYDPETGHQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECV 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              |||||||||| |||||||||||||:||||||||||||||||| ||||||||||||
Db         82 YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEIEFCLKHRSCPPGSGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||:||||||| |||||||| |||||| ||||| |||||||||:|||| |:||||||||||
Db        142 CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQKCGIDVTL 201


RESULT 4
T11B_RAT
ID   T11B_RAT       STANDARD;      PRT;   401 AA.
AC   O08727;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Tumor necrosis factor receptor superfamily member 11B precursor
DE   (Osteoprotegerin).
GN   Name=Tnfrsf11b; Synonyms=Opg;
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Embryonic intestine;
RX   MEDLINE=97262071; PubMed=9108485; DOI=10.1016/S0092-8674(00)80209-3;
RA   Simonet W.S., Lacey D.L., Dunstan C.R., Kelley M., Chang M.-S.,
RA   Luethy R., Nguyen H.Q., Wooden S., Bennett L., Boone T., Shimamoto G.,
RA   Derose M., Elliott R., Colombero A., Tan H.-L., Trail G., Sullivan J.,
RA   Davy E., Bucay N., Renshaw-Gegg L., Hughes T.M., Hill D., Pattison W.,
RA   Campbell P., Sander S., Van G., Tarpley J., Derby P., Lee R.,
RA   Suggs S., Boyle W.J.;
RT   "Osteoprotegerin: a novel secreted protein involved in the regulation
RT   of bone density.";
RL   Cell 89:309-319(1997).
CC   -!- FUNCTION: Acts as decoy receptor for RANKL and thereby neutralizes
CC       its function in osteoclastogenesis. Inhibits the activation of
CC       osteoclasts and promotes osteoclast apoptosis. Bone homeostasis
CC       seems to depend on the local RANKL/OPG ratio. May also play a role
CC       in preventing arterial calcification. May act as decoy receptor
CC       for TRAIL and protect against apoptosis. TRAIL binding blocks the
CC       inhibition of osteoclastogenesis (By similarity).
CC   -!- SUBUNIT: Homodimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
CC   -!- INDUCTION: Up-regulated by osteopontin.
CC   -!- SIMILARITY: Contains 2 death domains.
CC   -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U94330; AAB53707.1; -.
DR   HSSP; P19438; 1NCF.
DR   RGD; 619802; Tnfrsf11b.
DR   InterPro; IPR000488; Death.
DR   InterPro; IPR011029; DEATH_like.
DR   InterPro; IPR009030; Grow_fac_recept.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 4.
DR   SMART; SM00005; DEATH; 1.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS50017; DEATH_DOMAIN; FALSE_NEG.
DR   PROSITE; PS00652; TNFR_NGFR_1; 1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 2.
KW   Apoptosis; Cytokine; Glycoprotein; Repeat; Signal.
FT   SIGNAL       1    21       By similarity.
FT   CHAIN       22   401       Tumor necrosis factor receptor
FT                              superfamily member 11B.
FT   REPEAT      24    62       TNFR-Cys 1.
FT   REPEAT      65   105       TNFR-Cys 2.
FT   REPEAT     107   142       TNFR-Cys 3.
FT   REPEAT     145   185       TNFR-Cys 4.
FT   DOMAIN     198   269       Death 1.
FT   DOMAIN     270   365       Death 2.
FT   SITE       400   400       Involved in dimerization (By similarity).
FT   DISULFID    41    54       By similarity.
FT   DISULFID    44    62       By similarity.
FT   DISULFID    65    80       By similarity.
FT   DISULFID    83    97       By similarity.
FT   DISULFID    87   105       By similarity.
FT   DISULFID   107   118       By similarity.
FT   DISULFID   124   142       By similarity.
FT   DISULFID   145   160       By similarity.
FT   DISULFID   166   185       By similarity.
FT   CARBOHYD    98    98       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   165   165       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   178   178       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   289   289       N-linked (GlcNAc. . .) (Potential).
SQ   SEQUENCE   401 AA;  46192 MW;  FEC6A31F1D4E573A CRC64;

  Query Match             87.2%;  Score 912;  DB 1;  Length 401;
  Best Local Similarity   86.1%;  Pred. No. 3.9e-72;
  Matches  155;  Conservative    9;  Mismatches   16;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              |||||||||||  ||  |||||||  ||||||||||  :  ||:|  ||||:  ||||||||||:
Db         22 ETFPPKYLHYDPETGRQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDYSYTDSWHTSDECV 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||  |||||||||||||||:|||||:||||||||||||  ||:||||||||||
Db         82 YCSPVCKELQTVKQECNRTHNRVCECEEGRYLELEFCLKHRSCPPGLGVLQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||  ||||||||||||||  ||||  |||||||||:||||  |:||  |||||||
Db        142 CKRCPDGFFSGETSSKAPCRKHTNCSSLGLLLIQKGNATHDNVCSGNREATQNCGIDVTL 201


RESULT 5
Q6GLN3
ID   Q6GLN3      PRELIMINARY;      PRT;   387 AA.
AC   Q6GLN3;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   MGC84670 protein.
GN   Name=MGC84670;
OS   Xenopus laevis (African clawed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8355;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Eye;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA   Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA   Jones S.J., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Eye;
RX   MEDLINE=22341132; PubMed=12454917; DOI=10.1002/dvdy.10174;
RA   Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,
RA   Richardson P.;
RT   "Genetic and genomic tools for Xenopus research: The NIH Xenopus
RT   initiative.";
RL   Dev. Dyn. 225:384-391(2002).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Eye;
RA   Klein S., Gerhard D.S.;
RL   Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; BC074428; AAH74428.1; -.
DR   GO; GO:0004872; F:receptor activity; IEA.
DR   InterPro; IPR006209; EGF_like.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 2.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR   PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 2.
SQ   SEQUENCE   387 AA;  44568 MW;  F365C364A11484AA CRC64;

  Query Match             56.2%;  Score 587.5;  DB 2;  Length 387;
  Best Local Similarity   53.7%;  Pred. No. 1.3e-43;
  Matches   95;  Conservative   30;  Mismatches   49;  Indels    3;  Gaps    1;

Qy          4 PPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCS 63
              | || |||  ||  | || |||||||:|| |: :  | ||||| |:| | |::: || :|:
Db         24 PQKYSHYDPRTSMYLQCDHCPPGTYVKQDCSTEKNTECAPCPSHHYNDRWNSNTECQFCN 83

Qy         64 PVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKR 123
              ||||||||||:|| ||||:|||  | ||::|||: |: | ||:|| | |||| :|||:
Db         84 VVCKELQYVKQQCNSTHNRLCECAAGFYLDLEFCVPHKKCHPGYGVAQEGTPESDTVCRP 143

Qy        124 CPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||:| ||: ||: | |:|||:|   |: :  :|:: || :|       | ||:||
Db        144 CPEGTFSDSTSATARCQKHTDCKKLGIKVAYQGDSDHDTLCQPEGSF---CEIDITL 197


RESULT 6
Q7ZZY4
ID   Q7ZZY4      PRELIMINARY;      PRT;   146 AA.
AC   Q7ZZY4;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Osteoprotegerin (Fragment).
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GN   Name=OPG;
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22760275; PubMed=12878204; DOI=10.1016/S0006-291X(03)01304-4;
RA   Bridgham J.T., Johnson A.L.;
RT   "Characterization of chicken TNFR superfamily decoy receptors, DcR3
RT   and osteoprotegerin.";
RL   Biochem. Biophys. Res. Commun. 307:956-961(2003).
DR   EMBL; AY251407; AAP03890.1; -.
DR   HSSP; O14763; 1D4V.
DR   GO; GO:0004872; F:receptor activity; IEA.
DR   InterPro; IPR006209; EGF_like.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 2.
DR   SMART; SM00208; TNFR; 3.
DR   PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR   PROSITE; PS00652; TNFR_NGFR_1; 1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 2.
FT   NON_TER     146    146
SQ   SEQUENCE   146 AA;  16487 MW;  1C9E64FE3A0FC2DF CRC64;

  Query Match             50.2%;  Score 525;  DB 2;  Length 146;
  Best Local Similarity   69.7%;  Pred. No. 1.5e-38;
  Matches   85;  Conservative   14;  Mismatches   23;  Indels    0;  Gaps    0;

Qy          4 PPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCS 63
              ||||||||  || |::|::||||:|:||||||   ||||||| || : |:::||| |||
Db         25 PPKYLHYDPGTSRQVMCNQCPPGSYVKQHCTAASPTVCAPCPDQYYAEDWNSNDECQYCS 84

Qy         64 PVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKR 123
               |||||||:||||  | :||||| || |||:||||||  |||||||| | |||| :|||
Db         85 AVCKELQYIKQECTSTQDRVCECIEGWYLELEFCLKHTECPPGFGVAQPGTPESDTVCFC 144

Qy        124 CP 125
              ||
Db        145 CP 146


RESULT 7
Q7ZZY5
ID   Q7ZZY5      PRELIMINARY;      PRT;   186 AA.
AC   Q7ZZY5;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Decoy receptor 3 (Fragment).
GN   Name=DcR3;
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22760275; PubMed=12878204; DOI=10.1016/S0006-291X(03)01304-4;
RA   Bridgham J.T., Johnson A.L.;
RT   "Characterization of chicken TNFR superfamily decoy receptors, DcR3
RT   and osteoprotegerin.";
RL   Biochem. Biophys. Res. Commun. 307:956-961(2003).
DR   EMBL; AY251406; AAP03889.1; -.
DR   HSSP; O14763; 1DU3.
DR   GO; GO:0004872; F:receptor activity; IEA.
DR   InterPro; IPR006209; EGF_like.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 1.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR   PROSITE; PS00652; TNFR_NGFR_1; 1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 1.
KW   Receptor.
FT   NON_TER     186    186
SQ   SEQUENCE   186 AA;  20671 MW;  31D65731DACB758E CRC64;

  Query Match             43.0%;  Score 450;  DB 2;  Length 186;
  Best Local Similarity   48.7%;  Pred. No. 7.5e-32;
  Matches   75;  Conservative   24;  Mismatches   55;  Indels    0;  Gaps    0;

Qy          4 PPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCS 63
              || |    |  |  :: | :|||||:: |||| :  |||||||| :||  |:  ::||||:
Db         32 PPTYQWRDAGTKERVTCQQCPPGTFVAQHCTKERPTVCAPCPDLHYTHYWNYLEKCLYCN 91

Qy         64 PVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKR 123
                | | |   |:|| |||| |:|:|| : |:|||::|    || |||: |:|  || |:
Db         92 VXCGERQVEVQQCNATHNRACQCQEGFHAEMEFCVQHSEXXPGSGVVKLGSPSENTQCRA 151

Qy        124 CPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGN 157
              || | ||: :||  ||| | ||:  |       ||
Db        152 CPRGSFSSSSSSTEPCRAHQNCTQLGKETNVPGN 185


RESULT 8
TR6B_HUMAN
ID   TR6B_HUMAN     STANDARD;      PRT;   300 AA.
AC   O95407;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Tumor necrosis factor receptor superfamily member 6B precursor (Decoy
DE   receptor for Fas ligand) (Decoy receptor 3) (DcR3) (M68)
DE   (UNQ186/PRO212).
GN   Name=TNFRSF6B; Synonyms=DCR3, TR6;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Fetal lung;
RX   MEDLINE=99087326; PubMed=9872321; DOI=10.1038/25387;
RA   Pitti R.M., Marsters S.A., Lawrence D.A., Roy M., Kischkel F.C.,
RA   Dowd P., Huang A., Donahue C.J., Sherwood S.W., Baldwin D.T.,
RA   Godowski P.J., Wood W.I., Gurney A.L., Hillan K.J., Cohen R.L.,
RA   Goddard A.D., Botstein D., Ashkenazi A.;
RT   "Genomic amplification of a decoy receptor for Fas ligand in lung and
RT   colon cancer.";
RL   Nature 396:699-703(1998).
RN   [2]
RP   SEQUENCE FROM N.A., AND SEQUENCE OF 30-35.
RC   TISSUE=Prostate;
RX   MEDLINE=99253915; PubMed=10318773; DOI=10.1074/jbc.274.20.13733;
RA   Yu K.-Y., Kwon B., Ni J., Zhai Y., Ebner R., Kwon B.S.;
RT   "A newly identified member of tumor necrosis factor receptor
RT   superfamily (TR6) suppresses LIGHT-mediated apoptosis.";
RL   J. Biol. Chem. 274:13733-13736(1999).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Lung;
RX   MEDLINE=20122600; PubMed=10655513; DOI=10.1073/pnas.97.3.1230;
RA   Bai C., Connolly B., Metzker M.L., Hilliard C.A., Liu X., Sandig V.,
RA   Soderman A., Galloway S.M., Liu Q., Austin C.P., Caskey C.T.;
RT   "Overexpression of M68/DcR3 in human gastrointestinal tract tumors
RT   independent of gene amplification and its location in a four-gene
RT   cluster.";
RL   Proc. Natl. Acad. Sci. U.S.A. 97:1230-1235(2000).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22887296; PubMed=12975309; DOI=10.1101/gr.1293003;
RA   Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,
RA   Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P.,
RA   Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S.,
RA   Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J.,
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RA   Lewis L., Liao D., Mark M., Robbie E., Sanchez C., Schoenfeld J.,
RA   Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A.,
RA   Vandlen R., Watanabe C., Wieand D., Woods K., Xie M.-H., Yansura D.,
RA   Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,
RA   Godowski P., Gray A.;
RT   "The secreted protein discovery initiative (SPDI), a large-scale
RT   effort to identify novel human secreted and transmembrane proteins: a
RT   bioinformatics assessment.";
RL   Genome Res. 13:2265-2270(2003).
RN   [5]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=21638749; PubMed=11780052; DOI=10.1038/414865a;
RA   Deloukas P., Matthews L.H., Ashurst J.L., Burton J., Gilbert J.G.R.,
RA   Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
RA   Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA   Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA   Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA   Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA   Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA   Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
RA   Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA   Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA   Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA   Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA   Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA   Lehvaeslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA   Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A.,
RA   Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA   Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA   Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
RA   Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,
RA   Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
RA   Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA   Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
RA   Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
RA   Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA   Rogers J.;
RT   "The DNA sequence and comparative analysis of human chromosome 20.";
RL   Nature 414:865-871(2001).
RN   [6]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Lung, and Skin;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: Decoy receptor for the cytotoxic ligands TNFS14/LIGHT
CC       and TNFSF6/FASL. Protects against apoptosis.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Detected in fetal lung, brain and liver.
CC       Detected in adult stomach, spinal cord, lymph node, trachea,
CC       spleen, colon and lung. Highly expressed in several primary tumors
CC       from colon, stomach, rectum, esophagus and in SW480 colon
CC       carcinoma cells.
CC   -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF104419; AAD03056.1; -.
DR   EMBL; AF134240; AAD29688.1; -.
DR   EMBL; AF217796; AAF35244.1; -.
DR   EMBL; AF217793; AAF33685.1; -.
DR   EMBL; AF217794; AAF33686.1; -.
DR   EMBL; AY358279; AAQ88646.1; -.
DR   EMBL; AL121845; CAC03668.1; -.
DR   EMBL; BC017065; AAH17065.1; -.
DR   EMBL; BC034349; AAH34349.1; -.
DR   HSSP; O14763; 1DU3.
DR   Genew; HGNC:11921; TNFRSF6B.
DR   H-InvDB; HIX0016007; -.
DR   MIM; 603361; -.
DR   GO; GO:0005625; C:soluble fraction; TAS.
DR   GO; GO:0004872; F:receptor activity; TAS.
DR   GO; GO:0006916; P:anti-apoptosis; TAS.
DR   InterPro; IPR009030; Grow_fac_recept.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 4.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS00652; TNFR_NGFR_1; 1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 2.
KW   Apoptosis; Direct protein sequencing; Glycoprotein; Receptor; Repeat;
KW   Signal.
FT   SIGNAL       1    29
FT   CHAIN       30   300       Tumor necrosis factor receptor
FT                              superfamily member 6B.
FT   REPEAT      31    70       TNFR-Cys 1.
FT   REPEAT      72   113       TNFR-Cys 2.
FT   REPEAT     115   150       TNFR-Cys 3.
FT   REPEAT     152   193       TNFR-Cys 4.
FT   DISULFID    49    62       By similarity.
FT   DISULFID    52    70       By similarity.
FT   DISULFID    73    88       By similarity.
FT   DISULFID    91   105       By similarity.
FT   DISULFID    95   113       By similarity.
FT   DISULFID   115   126       By similarity.
FT   DISULFID   132   150       By similarity.
FT   DISULFID   153   168       By similarity.
FT   DISULFID   174   193       By similarity.
FT   CARBOHYD   173   173       N-linked (GlcNAc. . .) (Potential).
SQ   SEQUENCE   300 AA;  32679 MW;  F90AEE33718449AF CRC64;

  Query Match             41.4%;  Score 433.5;  DB 1;  Length 300;
  Best Local Similarity   39.1%;  Pred. No. 3.5e-30;
  Matches   72;  Conservative   32;  Mismatches   69;  Indels   11;  Gaps    1;

Qy          5 PKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSP 64
              | |   | ||  :|:| :|||||:::: |     | | |||  :||  |:  : | ||:
Db         34 PTYPWRDAETGERLVCAQCPPGTFVQRPCRRDSPTTCGPCPPRHYTQFWNYLERCRYCNV 93

Qy         65 VCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKRC 124
              :| | :   : |: |||| | |: | :    |||:| ||||| ||:  ||| :|| |: |
Db         94 LCGEREEEARACHATHNRACRCRTGFFAHAGFCLEHASCPPGAGVIAPGTPSQNTQCQPC 153

Qy        125 PDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSG----------NSESTQK 173
              | | ||  :||   |: | ||:  || |  |:::|| :|:          :|  ::
Db        154 PPGTFSASSSSSEQCQPHRNCTALGLALNVPGSSSHDTLCTSCTGFPLSTRVPGAEECER 213

Qy        174 CGID 177
                ||
Db        214 AVID 217


RESULT 9
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Q9PUS0
ID   Q9PUS0      PRELIMINARY;      PRT;   302 AA.
AC   Q9PUS0;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Decoy TNF receptor.
OS   Salvelinus fontinalis (Brook trout) (Brook char).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Salvelinus.
OX   NCBI_TaxID=8038;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20111091; PubMed=10642582;
RA   Bobe J., Goetz F.W.;
RT   "A tumor necrosis factor decoy receptor homologue is up-regulated in
RT   the brook trout (Salvelinus fontinalis) ovary at the completion of
RT   ovulation.";
RL   Biol. Reprod. 62:420-426(2000).
DR   EMBL; AF156738; AAD56428.1; -.
DR   HSSP; O14763; 1D4V.
DR   GO; GO:0004872; F:receptor activity; IEA.
DR   InterPro; IPR006209; EGF_like.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 1.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS01186; EGF_2; 1.
DR   PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 1.
KW   Receptor.
SQ   SEQUENCE   302 AA;  34037 MW;  E44C73477F05C3DF CRC64;

  Query Match            38.8%;  Score 405.5;  DB 2;  Length 302;
  Best Local Similarity   45.2%;  Pred. No. 1e-27;
  Matches   71;  Conservative   30;  Mismatches   53;  Indels    3;  Gaps    2;

Qy         11 DEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSPVCKELQ 70
              |  :    ::||:|||||||:  |:|  |: || ||:  ||: |:   :|| || :| | |
Db         27 DRYSGLSIVCDRCPPGTYLRAPCSAMRKSDCAECPNGAYTEFWNHISKCLRCS-MCAENQ 85

Qy         71 YVKQECNRTHNRVCECKEGRYL--EIEFCLKHRSCPPGFGVVQAGTPERNTVCKRCPDGF 128
                |||||: ::|  ||||||  |   : | |:||: ||||:|    ||| ::| | :|  ||
Db         86 VVKQECSPSNNCECECKEGYYFNKKYEACIKHKECPPGYGANTTGTPHQDTECVQCQAGF 145

Qy        129 FSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
               :|  :|:|| |   :|| | || :  ||   |: :|:
Db        146 YSEVSSAKATCLAQSNCKVGGLRVVLKGQDWHNTLCA 182


RESULT 10
Q90W71
ID   Q90W71      PRELIMINARY;      PRT;   285 AA.
AC   Q90W71;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Putative decoy receptor 3 protein.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Head kidney;
RA   Pleguezuelos O., Secombes C.J.;
RL   Submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AJ315137; CAC43329.1; -.
DR   HSSP; O14763; 1D0G.
DR   GO; GO:0004872; F:receptor activity; IEA.
DR   Pfam; PF00020; TNFR_c6; 2.
DR   SMART; SM00208; TNFR; 3.
DR   PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR   PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 1.
KW   Receptor.
SQ   SEQUENCE   285 AA;  31642 MW;  FB75CFFC1E391AD0 CRC64;

  Query Match            36.0%;  Score 377;  DB 2;  Length 285;
  Best Local Similarity   42.2%;  Pred. No. 3e-25;
  Matches   68;  Conservative   22;  Mismatches   69;  Indels    2;  Gaps    1;

Qy          5 PKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSP 64
              | |:  |: |   | || | ||||| :|||   |: | |||  :||: |:  : | ||:
Db         29 PTYIWRDDATGDSLTCDLCAPGTYLLKHCTKDRKSDCGPCPKSHYTEIWNYIERCQYCNR 88

Qy         65 VCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKRC 124
                |   :     | : ||| ||||:| |:    | :|| |||| ||:  ||    :  |: |
Db         89 FCTADEIESVPCTQLHNRQCECKDGFYMTHGSCSRHRRCPPGEGVISNGTAHTDVKCEPC 148

Qy        125 PDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
               | ||||  :||:  |:| : |   |   |  ||  :|  ||
Db        149 PVGFFSAVSSSRKACQKFSVCPPGG--TTIPGNDMNDVYCS 187


RESULT 11
Q90YS6
ID   Q90YS6      PRELIMINARY;      PRT;   285 AA.
AC   Q90YS6;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   TNF decoy receptor.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=21883732; PubMed=11886174; DOI=10.1006/cyto.2001.0979;
RA   Liu L., Fujiki K., Dixon B., Sundick R.S.;
RT   "Cloning of a novel rainbow trout (Oncorhynchus mykiss) CC chemokine
RT   with a fractalkine-like stalk and a TNF decoy receptor using cDNA
RT   fragments containing AU-rich elements.";
RL   Cytokine 17:71-81(2002).
DR   EMBL; AF401631; AAK91758.1; -.
DR   HSSP; O14763; 1D0G.
DR   GO; GO:0004872; F:receptor activity; IEA.
DR   Pfam; PF00020; TNFR_c6; 2.
DR   SMART; SM00208; TNFR; 3.
DR   PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR   PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 1.
KW   Receptor.
SQ   SEQUENCE   285 AA;  31795 MW;  5E3BD1B6EFC6BABC CRC64;

  Query Match            35.3%;  Score 369;  DB 2;  Length 285;
  Best Local Similarity   41.6%;  Pred. No. 1.5e-24;
  Matches   67;  Conservative   22;  Mismatches   70;  Indels    2;  Gaps    1;

Qy          5 PKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSP 64
              | |:  |: |   | || | ||||| :|||   |: | |||  :||: |:  : | ||:
Db         29 PTYIWRDDATGDSLTCDLCAPGTYLLKHCTKDRKSDCGPCPKSHYTEIWNYIERCQYCNR 88

Qy         65 VCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKRC 124
                |   :     | : ||| ||||:| |:    | :|| |||| ||:  ||    :  |: |
Db         89 FCTADEIESVPCTQLHNRQCECKDGFYMTHGSCSRHRRCPPGEGVISNGTAHTDVKCEPC 148

Qy        125 PDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
               | ||||  :||:  |:| : |       |  ||  :|  ||
Db        149 PVGFFSAVSSSRKACQKFSVCPPG--RTTIPGNDMNDVYCS 187


RESULT 12
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Q6NW61
ID   Q6NW61      PRELIMINARY;      PRT;   286 AA.
AC   Q6NW61;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   LOC407674 protein (Fragment).
GN   Name=LOC407674;
OS   Brachydanio rerio (Zebrafish) (Danio rerio).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Danio.
OX   NCBI_TaxID=7955;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Embryo;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA   Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA   Jones S.J., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Embryo;
RA   Strausberg R.;
RL   Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; BC067712; AAH67712.1; -.
DR   GO; GO:0004872; F:receptor activity; IEA.
DR   InterPro; IPR006209; EGF_like.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 2.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS01186; EGF_2; UNKNOWN_1.
DR   PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
DR   PROSITE; PS50050; TNFR_NGFR_2; 1.
FT   NON_TER       1      1
SQ   SEQUENCE   286 AA;  32275 MW;  9F43CDC5FAC4E77B CRC64;

  Query Match             34.4%;  Score 360;  DB 2;  Length 286;
  Best Local Similarity   44.0%;  Pred. No. 9.6e-24;
  Matches   70;  Conservative   21;  Mismatches   66;  Indels    2;  Gaps    2;

Qy          7 YLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSPVC 66
              |   | ||   | | :| ||: |:|||::  :| |:||    ||: |:   :|| |   |
Db         18 YRRKDPETGRTLECARCAPGSRLRQHCSSSRQTECSPCGPGMYTEFWNYIPDCLLCDS-C 76

Qy         67 KELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKRCPD 126
                | | | | ||   | ||||:|| | |  || :|  | || ||  |||| :|||: | :
Db         77 AEHQRVVQPCNGIANTVCECEEGFYWEQHFCRRHSVCRPGHGVKTAGTPYSDTVCEACAE 136

Qy        127 GFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
              | ||: | : | | ||  |     ||  ||  :::||:
Db        137 GHFSDATKAHAQCVKHRVCQGEEHLLL-SGNTHYNSICT 174


RESULT 13
Q62327
ID   Q62327      PRELIMINARY;      PRT;   459 AA.
AC   Q62327;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumour necrosis factor receptor 2 protein (Fragment).
GN   Name=Tnfrsf1b;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NOD;
RA   Powell E.E., Wicker L.S., Peterson L.B., Todd J.A.;
RT   "Amino acid variation in the tumor Necrosis factor receptor 2 is
RT   linked to autoimmune diabetes in NOD mice.";
RL   Genomics 0:0-0(0).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NOD;
RX   MEDLINE=95178848; PubMed=7873884;
RA   Powell E.E., Wicker L.S., Peterson L.B., Todd J.A.;
RT   "Allelic variation of the type 2 tumor necrosis factor receptor
RT   gene.";
RL   Mamm. Genome 5:726-727(1994).
DR   EMBL; X76401; CAA53981.1; -.
DR   PIR; I48854; I48854.
DR   HSSP; P19438; 1NCF.
DR   MGD; MGI:1314883; Tnfrsf1b.
DR   GO; GO:0005615; C:extracellular space; TAS.
DR   GO; GO:0016021; C:integral to membrane; TAS.
DR   GO; GO:0008283; P:cell proliferation; TAS.
DR   GO; GO:0007166; P:cell surface receptor linked signal transdu. . .; IMP.
DR   GO; GO:0006954; P:inflammatory response; IMP.
DR   GO; GO:0008220; P:necrosis; IMP.
DR   InterPro; IPR001368; TNFR_c6.
DR   Pfam; PF00020; TNFR_c6; 2.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS00652; TNFR_NGFR_1; 2.
DR   PROSITE; PS50050; TNFR_NGFR_2; 3.
KW   Receptor.
FT   NON_TER       1      1
SQ   SEQUENCE   459 AA;  48686 MW;  6C51D2CF1C4626DF CRC64;

  Query Match             31.8%;  Score 332.5;  DB 2;  Length 459;
  Best Local Similarity   38.3%;  Pred. No. 4.1e-21;
  Matches   64;  Conservative   20;  Mismatches   70;  Indels   13;  Gaps    3;

Qy          9 HYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSPVCKE 68
              :|| :   |: | ||||| |:|  |      |||| |    ||  |:    || ||  |
Db         31 YYDRKA--QMCCAKCPPGQYVKHFCNKTSDTVCADCEASMYTQVWNQFRTCLSCSSSCST 88

Qy         69 LQYVKQECNRTHNRVCECKEGRYLEIEF-------CLKHRSCPPGFGVVQAGTPERNTVC 121
                |   : | :  |||| |: |||  ::         |::   | |||||  :  |  | :|
Db         89 DQVETRACTKQQNRVCACEAGRYCALKTHSGSCRQCMRLSKCGPGFGVASSRAPNGNVLC 148

Qy        122 KRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNS 168
              | |  | ||: |||    || |  ||:  :     |||: | :|:  |
Db        149 KACAPGTFSDTTSSTDVCRPHRICSILAI----PGNASTDAVCAPES 191


RESULT 14
TR1B_HUMAN
ID   TR1B_HUMAN     STANDARD;      PRT;   461 AA.
AC   P20333; Q16042; Q6YI29; Q9UIH1;
DT   01-FEB-1991 (Rel. 17, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   25-JAN-2005 (Rel. 46, Last annotation update)
DE   Tumor necrosis factor receptor superfamily member 1B precursor (Tumor
DE   necrosis factor receptor 2) (TNF-R2) (Tumor necrosis factor receptor
DE   type II) (p75) (p80 TNF-alpha receptor) (CD120b) (Etanercept)
DE   [Contains: Tumor necrosis factor binding protein 2 (TBPII) (TBP-2)].
```

GN Name=TNFRSF1B; Synonyms=TNFBR, TNFR2;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=90260639; PubMed=2160731;
RA Smith C.A., Davis T., Anderson D., Solam L., Beckmann M.P., Jerzy R.,
RA Dower S.K., Cosman D., Goodwin R.G.;
RT "A receptor for tumor necrosis factor defines an unusual family of
RT cellular and viral proteins.";
RL Science 248:1019-1023(1990).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANT ARG-196.
RX MEDLINE=91045991; PubMed=2172983;
RA Kohno T., Brewer M.T., Baker S.L., Schwartz P.E., King M.W.,
RA Hale K.K., Squires C.H., Thompson R.C., Vannice J.L.;
RT "A second tumor necrosis factor receptor gene product can shed a
RT naturally occurring tumor necrosis factor inhibitor.";
RL Proc. Natl. Acad. Sci. U.S.A. 87:8331-8335(1990).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=96299745; PubMed=8661109; DOI=10.1006/geno.1996.0327;
RA Beltinger C.P., White P.S., Maris J.M., Sulman E.P., Jensen S.J.,
RA Lepaslier D., Stallard B.J., Goeddel D.V., Desauvage F.J.,
RA Brodeur G.M.;
RT "Physical mapping and genomic structure of the human TNFR2 gene.";
RL Genomics 35:94-100(1996).
RN [4]
RP SEQUENCE FROM N.A. (ISOFORM 2), SUBCELLULAR LOCATION, AND FUNCTION OF
RP ISOFORM 2.
RX PubMed=14688072; DOI=10.1093/intimm/dxh014;
RA Lainez B., Fernandez-Real J.M., Romero X., Esplugues E., Canete J.D.,
RA Ricart W., Engel P.;
RT "Identification and characterization of a novel spliced variant that
RT encodes human soluble tumor necrosis factor receptor 2.";
RL Int. Immunol. 16:169-177(2004).
RN [5]
RP SEQUENCE FROM N.A., AND VARIANTS MET-187; ARG-196; LYS-232; THR-236;
RP PRO-264 AND ARG-295.
RA Rieder M.J., Livingston R.J., Daniels M.R., Chung M.-W.,
RA Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,
RA Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
RT "NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
RL Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
RN [6]
RP SEQUENCE FROM N.A., AND VARIANTS ARG-196; LYS-232; PRO-269 AND
RP ARG-301.
RA Rieder M.J., Carrington D.P., da Ponte S.H., Hastings N.C.,
RA Ahearn M.O., Kuldanek S.A., Rajkumar N., Toth E.J., Yi Q.,
RA Nickerson D.A.;
RT "SeattleSNPs. NHLBI HL66682 program for genomic applications, UW-
RT FHCRC, Seattle, WA (URL: http://pga.gs.washington.edu).";
RL Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
RN [7]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RC TISSUE=PNS;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [8]
RP SEQUENCE OF 37-461 FROM N.A. (ISOFORM 1).
RX MEDLINE=91370690; PubMed=1966549; DOI=10.1016/1043-4666(90)90022-L;
RA Dembic Z., Loetscher H., Gubler U., Pan Y.C., Lahm H.-W., Gentz R.,
RA Brockhaus M., Lesslauer W.;
RT "Two human TNF receptors have similar extracellular, but distinct
RT intracellular, domain sequences.";
RL Cytokine 2:231-237(1990).
RN [9]
RP SEQUENCE OF 116-461 FROM N.A. (ISOFORM 1), PARTIAL SEQUENCE, AND
RP VARIANT ARG-196.
RX MEDLINE=90349572; PubMed=2166946;
RA Heller R.A., Song K., Onasch M.A., Fischer W.H., Chang D.,
RA Ringold G.M.;
RT "Complementary DNA cloning of a receptor for tumor necrosis factor and
RT demonstration of a shed form of the receptor.";
RL Proc. Natl. Acad. Sci. U.S.A. 87:6151-6155(1990).
RN [10]
RP SEQUENCE OF 154-183 FROM N.A., AND VARIANTS ARG-196 AND LYS-232.
RX MEDLINE=21069356; PubMed=11197692; DOI=10.1038/sj.gene.6363700;
RA Tsuchiya N., Komata T., Matsushita M., Ohashi J., Tokunaga K.;
RT "New single nucleotide polymorphisms in the coding region of human
RT TNFR2: association with systemic lupus erythematosus.";
RL Genes Immun. 1:501-503(2000).
RN [11]
RP SEQUENCE OF 27-31.
RC TISSUE=Urine;
RX MEDLINE=90110215; PubMed=2153136;
RA Engelmann H., Novick D., Wallach D.;
RT "Two tumor necrosis factor-binding proteins purified from human urine.
RT Evidence for immunological cross-reactivity with cell surface tumor
RT necrosis factor receptors.";
RL J. Biol. Chem. 265:1531-1536(1990).
RN [12]
RP SEQUENCE OF 23-40; 65-69; 136-141; 300-306 AND 346-362.
RX MEDLINE=91056048; PubMed=2173696;
RA Loetscher H., Schlaeger E.J., Lahm H.-W., Pan Y.-C.E., Lesslauer W.,
RA Brockhaus M.;
RT "Purification and partial amino acid sequence analysis of two distinct
RT tumor necrosis factor receptors from HL60 cells.";
RL J. Biol. Chem. 265:20131-20138(1990).
RN [13]
RP CHARACTERIZATION.
RX MEDLINE=93016040; PubMed=1328224;
RA Pennica D., Lam V.T., Mize N.K., Weber R.F., Lewis M., Fendly B.M.,
RA Lipari M.T., Goeddel D.V.;
RT "Biochemical properties of the 75-kDa tumor necrosis factor receptor.
RT Characterization of ligand binding, internalization, and receptor
RT phosphorylation.";
RL J. Biol. Chem. 267:21172-21178(1992).
RN [14]
RP INTERACTION WITH TRAF2.
RX MEDLINE=94349371; PubMed=8069916; DOI=10.1016/0092-8674(94)90532-0;
RA Rothe M., Wong S.C., Henzel W.J., Goeddel D.V.;
RT "A novel family of putative signal transducers associated with the
RT cytoplasmic domain of the 75 kDa tumor necrosis factor receptor.";
RL Cell 78:681-692(1994).
RN [15]
RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS) OF 419-428 IN COMPLEX WITH
RP TRAF2.
RX MEDLINE=99221490; PubMed=10206649; DOI=10.1038/19110;
RA Park Y.C., Burkitt V., Villa A.R., Tong L., Wu H.;
RT "Structural basis for self-association and receptor recognition of
RT human TRAF2.";
RL Nature 398:533-538(1999).
RN [16]

```
RP   VARIANTS ARG-196 AND LYS-232.
RX   MEDLINE=21603988; PubMed=11762942;
RA   Morita C., Horiuchi T., Tsukamoto H., Hatta N., Kikuchi Y.,
RA   Arinobu Y., Otsuka T., Sawabe T., Harashima S., Nagasawa K., Niho Y.;
RT   "Association of tumor necrosis factor receptor type II polymorphism
RT   196R with systemic lupus erythematosus in the Japanese: molecular and
RT   functional analysis.";
RL   Arthritis Rheum. 44:2819-2827(2001).
RN   [17]
RP   VARIANT ARG-196.
RX   MEDLINE=22151311; PubMed=12161545; DOI=10.1210/jc.87.8.3977;
RA   Peral B., San Millan J.L., Castello R., Moghetti P.,
RA   Escobar-Morreale H.F.;
RT   "Comment: the methionine 196 arginine polymorphism in exon 6 of the
RT   TNF receptor 2 gene (TNFRSF1B) is associated with the polycystic ovary
RT   syndrome and hyperandrogenism.";
RL   J. Clin. Endocrinol. Metab. 87:3977-3983(2002).
CC   -!- FUNCTION: Receptor with high affinity for TNFSF2/TNF-alpha and
CC       approximately 5-fold lower affinity for homotrimeric
CC       TNFSF1/lymphotoxin-alpha. The TRAF1/TRAF2 complex recruits the
CC       apoptotic suppressors BIRC2 and BIRC3 to TNFRSF1B/TNFR2. This
CC       receptor mediates most of the metabolic effects of TNF-alpha.
CC       Isoform 2 blocks TNF-alpha-induced apoptosis, which suggests that
CC       it regulates TNF-alpha function by antagonizing its biological
CC       activity.
CC   -!- SUBUNIT: Binds to TRAF2.
CC   -!- SUBCELLULAR LOCATION: Type I membrane protein (isoform 1);
CC       secreted (isoform 2 and TBP-II).
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1;
CC         IsoId=P20333-1; Sequence=Displayed;
CC       Name=2; Synonyms=DS-TNFR2(Delta7,8), sTNFR2;
CC         IsoId=P20333-2; Sequence=VSP_011826, VSP_011827;
CC   -!- PTM: Phosphorylated; mainly on serine residues and with a very low
CC       level on threonine residues.
CC   -!- PTM: A soluble form (tumor necrosis factor binding protein 2) is
CC       produced from the membrane form by proteolytic processing.
CC   -!- PHARMACEUTICAL: Available under the name Enbrel (Immunex and
CC       Wyeth-Ayerst). Used to treat moderate to servere rheumatoid
CC       arthritis (RA). Enbrel consist of the extracellular ligand-binding
CC       portion of TNFRSF1B linked to an immunoglobulin Fc chain. It binds
CC       to TNF-alpha and blocks its interactions with receptors.
CC   -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC   -!- DATABASE: NAME=PROW; NOTE=CD guide CD120b entry;

  Query Match             31.5%;  Score 330;  DB 1;  Length 461;
  Best Local Similarity   39.8%;  Pred. No. 6.8e-21;
  Matches   66;  Conservative   16;  Mismatches   72;  Indels   12;  Gaps    3;

Qy          9 HYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSPVCKE 68
              :||:  : |: | || || : |  ||    |||  | |  ||  |:   ||| |   |
Db         45 YYDQ--TAQMCCSKCSPGQHAKVFCTKTSDTVCDSCEDSTYTQLWNWVPECLSCGSRCSS 102

Qy         69 LQYVKQECNRTHNRVCECKEGRYLEI------EFCLKHRSCPPGFGVVQAGTPERNTVCK 122
                |   | | |  ||:| |: | |  :         |   | | ||||| : ||   : |||
Db        103 DQVETQACTREQNRICTCRPGWYCALSKQEGCRLCAPLRKCRPGFGVARPGTETSDVVCK 162

Qy        123 RCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNS 168
                |  | ||| |||   || |  |:|  :     |||: | :|:  |
Db        163 PCAPGTFSNTTSSTDICRPHQICNVVAI----PGNASMDAVCTSTS 204


RESULT 15
TR1B_MOUSE
ID   TR1B_MOUSE     STANDARD;      PRT;   474 AA.
AC   P25119; O88734; P97893;
DT   01-MAY-1992 (Rel. 22, Created)
DT   01-MAY-1992 (Rel. 22, Last sequence update)
DT   25-JAN-2005 (Rel. 46, Last annotation update)
DE   Tumor necrosis factor receptor superfamily member 1B precursor (Tumor
DE   necrosis factor receptor 2) (TNF-R2) (Tumor necrosis factor receptor
DE   type II) (p75) (p80 TNF-alpha receptor).
GN   Name=Tnfrsf1b; Synonyms=Tnfr-2, Tnfr2;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91187885; PubMed=1849278;
RA   Lewis M., Tartaglia L.A., Lee A., Bennett G.L., Rice G.C., Wong G.H.,
RA   Chen E.Y., Goeddel D.V.;
RT   "Cloning and expression of cDNAs for two distinct murine tumor
RT   necrosis factor receptors demonstrate one receptor is species
RT   specific.";
RL   Proc. Natl. Acad. Sci. U.S.A. 88:2830-2834(1991).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91246168; PubMed=1645445;
RA   Goodwin R.G., Anderson D., Jerzy R., Davis T., Brannan C.I.,
RA   Copeland N.G., Jenkins N.A., Smith C.A.;
RT   "Molecular cloning and expression of the type 1 and type 2 murine
RT   receptors for tumor necrosis factor.";
RL   Mol. Cell. Biol. 11:3020-3026(1991).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=98414512; PubMed=9740674; DOI=10.1006/geno.1998.5407;
RA   Hurle B., Segade F., Rodriguez R., Ramos S.S., Lazo P.S.;
RT   "The mouse tumor necrosis factor receptor 2 gene: genomic structure
RT   and characterization of the two transcripts.";
RL   Genomics 52:79-98(1998).
RN   [4]
RP   SEQUENCE OF 1-26 FROM N.A.
RC   STRAIN=NOD;
RA   Jacob C.O., Liu J.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
RN   [5]
RP   SEQUENCE OF 1-22 FROM N.A.
RC   TISSUE=Liver;
RA   Kissonerghis M., Fellowes R., Feldmann M., Chernajovsky Y.;
RL   Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Receptor with high affinity for TNFSF2/TNF-alpha and
CC       approximately 5-fold lower affinity for homotrimeric
CC       TNFSF1/lymphotoxin-alpha. The TRAF1/TRAF2 complex recruits the
CC       apoptotic suppressors BIRC2 and BIRC3 to TNFRSF1B/TNFR2 (By
CC       similarity).
CC   -!- SUBUNIT: Binds to TRAF2 (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type I membrane protein.
CC   -!- SIMILARITY: Contains 4 TNFR-Cys repeats.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M60469; AAA39752.1; -.
DR   EMBL; M59378; AAA40463.1; -.
DR   EMBL; Y14619; CAA74969.1; -.
DR   EMBL; Y14620; CAA74969.1; JOINED.
DR   EMBL; Y14621; CAA74969.1; JOINED.
DR   EMBL; Y14622; CAA74969.1; JOINED.
DR   EMBL; Y14679; CAA74969.1; JOINED.
DR   EMBL; Y14623; CAA74969.1; JOINED.
DR   EMBL; U39488; AAA85021.1; -.
DR   EMBL; X87128; CAA60618.1; -.
DR   PIR; B38634; B38634.
DR   HSSP; P19438; 1NCF.
DR   MGD; MGI:1314883; Tnfrsf1b.
DR   GO; GO:0007166; P:cell surface receptor linked signal transdu. . .; IMP.
DR   GO; GO:0006954; P:inflammatory response; IMP.
DR   GO; GO:0008220; P:necrosis; IMP.
DR   InterPro; IPR001368; TNFR_c6.
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DR   Pfam; PF00020; TNFR_c6; 4.
DR   PIRSF; PIRSF001968; TNFR_2; 1.
DR   SMART; SM00208; TNFR; 4.
DR   PROSITE; PS00652; TNFR_NGFR_1; 2.
DR   PROSITE; PS50050; TNFR_NGFR_2; 3.
KW   Glycoprotein; Receptor; Repeat; Signal; Transmembrane.
FT   SIGNAL        1     22
FT   CHAIN        23    474       Tumor necrosis factor receptor
FT                                 superfamily member 1B.
FT   DOMAIN       23    258       Extracellular (Potential).
FT   TRANSMEM    259    288       Potential.
FT   DOMAIN      289    474       Cytoplasmic (Potential).
FT   REPEAT       39     77       TNFR-Cys 1.
FT   REPEAT       78    119       TNFR-Cys 2.
FT   REPEAT      120    164       TNFR-Cys 3.
FT   REPEAT      165    203       TNFR-Cys 4.
FT   DISULFID     40     54       By similarity.
FT   DISULFID     55     68       By similarity.
FT   DISULFID     58     76       By similarity.
FT   DISULFID     79     94       By similarity.
FT   DISULFID     97    111       By similarity.
FT   DISULFID    101    119       By similarity.
FT   DISULFID    121    127       By similarity.
FT   DISULFID    136    145       By similarity.
FT   DISULFID    139    163       By similarity.
FT   DISULFID    166    181       By similarity.
FT   CARBOHYD     69     69       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    195    195       N-linked (GlcNAc. . .) (Potential).
FT   CONFLICT     78     78       D -> DSDTVCAD (in Ref. 3).
FT   CONFLICT    102    102       T -> S (in Ref. 3).
FT   CONFLICT    108    108       I -> T (in Ref. 3).
FT   CONFLICT    283    283       I -> F (in Ref. 3).
FT   CONFLICT    331    331       S -> SS (in Ref. 3).
FT   CONFLICT    360    360       F -> S (in Ref. 3).
FT   CONFLICT    436    436       C -> Y (in Ref. 3).
SQ   SEQUENCE   474 AA;  50319 MW;  462EAE398C4D6563 CRC64;

  Query Match             31.5%;  Score 329.5;  DB 1;  Length 474;
  Best Local Similarity   38.3%;  Pred. No. 7.7e-21;
  Matches   64;  Conservative   20;  Mismatches   70;  Indels   13;  Gaps    3;

Qy          9 HYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSPVCKE 68
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Qy         69 LQYVKQECNRTHNRVCECKEGRYLEIEF-------CLKHRSCPPGFGVVQAGTPERNTVC 121
               |   : | :  |||| |: |||  ::        |::   | |||||  :  |  | :|
Db        104 DQVEIRACTKQQNRVCACEAGRYCALKTHSGSCRQCMRLSKCGPGFGVASSRAPNGNVLC 163

Qy        122 KRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNS 168
              | |  | ||: |||   || |  ||:  :     |||: | :|:  |
Db        164 KACAPGTFSDTTSSTDVCRPHRICSILAI----PGNASTDAVCAPES 206


Search completed: November 14, 2005, 23:16:45
Job time : 53.2581 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 22:59:40 ; Search time 14.4225 Seconds
(without alignments)
931.659 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_201
Perfect score: 1046
Sequence: 1 ETFPPKYLHYDEETSHQLLC.....DNICSGNSESTQKCGIDVTL 180

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1046	100.0	293	4	US-09-896-096A-18	Sequence 18, Appl
2	1046	100.0	401	3	US-08-974-022-6	Sequence 6, Appli
3	1046	100.0	401	3	US-09-042-785A-12	Sequence 12, Appl
4	1046	100.0	401	3	US-08-795-445A-6	Sequence 6, Appli
5	1046	100.0	401	3	US-08-795-447A-6	Sequence 6, Appli
6	1046	100.0	401	3	US-08-974-186-6	Sequence 6, Appli
7	1046	100.0	401	3	US-08-795-446B-6	Sequence 6, Appli
8	1046	100.0	401	3	US-09-153-927-1	Sequence 1, Appli
9	1046	100.0	401	3	US-09-072-993C-1	Sequence 1, Appli
10	1046	100.0	401	3	US-08-706-945D-128	Sequence 128, App
11	1046	100.0	401	4	US-08-577-788C-6	Sequence 6, Appli
12	1046	100.0	401	4	US-08-577-788C-56	Sequence 56, Appl
13	1046	100.0	401	4	US-09-064-832-2	Sequence 2, Appli
14	945	90.3	161	4	US-09-632-277A-3	Sequence 3, Appli
15	943	90.2	364	3	US-08-706-945D-142	Sequence 142, App
16	925	88.4	401	3	US-08-974-022-4	Sequence 4, Appli
17	925	88.4	401	3	US-09-042-785A-13	Sequence 13, Appl
18	925	88.4	401	3	US-08-795-445A-4	Sequence 4, Appli
19	925	88.4	401	3	US-08-795-447A-4	Sequence 4, Appli
20	925	88.4	401	3	US-08-974-186-4	Sequence 4, Appli
21	925	88.4	401	3	US-08-795-446B-4	Sequence 4, Appli
22	925	88.4	401	3	US-08-706-945D-126	Sequence 126, App
23	925	88.4	401	4	US-08-577-788C-4	Sequence 4, Appli
24	925	88.4	401	4	US-08-577-788C-54	Sequence 54, Appl
25	912	87.2	208	4	US-08-577-788C-50	Sequence 50, Appl
26	912	87.2	401	3	US-08-974-022-2	Sequence 2, Appli
27	912	87.2	401	3	US-08-795-445A-2	Sequence 2, Appli
28	912	87.2	401	3	US-08-795-447A-2	Sequence 2, Appli
29	912	87.2	401	3	US-08-974-186-2	Sequence 2, Appli
30	912	87.2	401	3	US-08-795-446B-2	Sequence 2, Appli
31	912	87.2	401	3	US-08-706-945D-124	Sequence 124, App
32	912	87.2	401	4	US-08-577-788C-2	Sequence 2, Appli
33	912	87.2	401	4	US-08-577-788C-55	Sequence 55, Appl
34	865	82.7	147	3	US-09-527-236A-20	Sequence 20, Appl
35	865	82.7	147	4	US-09-756-854-20	Sequence 20, Appl
36	861	82.3	146	4	US-09-523-323-58	Sequence 58, Appl
37	827	79.1	139	3	US-08-706-945D-130	Sequence 130, App
38	825	78.9	364	3	US-08-706-945D-141	Sequence 141, App
39	781	74.7	174	3	US-08-706-945D-136	Sequence 136, App
40	433.5	41.4	271	4	US-09-936-019-1	Sequence 1, Appli
41	433.5	41.4	300	2	US-08-794-796-2	Sequence 2, Appli
42	433.5	41.4	300	4	US-09-632-277A-2	Sequence 2, Appli
43	433.5	41.4	300	4	US-09-523-323-52	Sequence 52, Appl
44	433.5	41.4	300	4	US-09-896-096A-1	Sequence 1, Appli
45	433.5	41.4	300	4	US-09-936-019-3	Sequence 3, Appli

ALIGNMENTS

RESULT 1
US-09-896-096A-18
; Sequence 18, Application US/09896096A
; Patent No. 6764679
; GENERAL INFORMATION:
; APPLICANT: ASHKENAZI, AVI J
; APPLICANT: BOTSTEIN, DAVID
; APPLICANT: DODGE, KELLY H.
; APPLICANT: GURNEY, AUSTIN L.
; APPLICANT: KIM, KYUNG JIN
; APPLICANT: LAWRENCE, DAVID A.
; APPLICANT: PITTI, ROBERT
; APPLICANT: ROY, MARGARET A
; APPLICANT: TUMAS, DANIEL B
; APPLICANT: WOOD, WILLIAM I.
; TITLE OF INVENTION: DcR3 Polypeptide, A TNFR Homolog
; FILE REFERENCE: P1134R2 REVISED
; CURRENT APPLICATION NUMBER: US/09/896,096A
; CURRENT FILING DATE: 2001-06-28
; PRIOR APPLICATION NUMBER: US 09/157,289
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/059,288
; PRIOR FILING DATE: 1997-09-18
; PRIOR APPLICATION NUMBER: US 60/094,640
; PRIOR FILING DATE: 1998-07-30
; NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
; LENGTH: 293
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-896-096A-18

Query Match 100.0%; Score 1046; DB 4; Length 293;
Best Local Similarity 100.0%; Pred. No. 6.8e-91;
Matches 180; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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RESULT 2

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US-08-974-022-6
; Sequence 6, Application US/08974022
; Patent No. 6015938
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/974,022
;      FILING DATE:  12-DEC-1995
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-974-022-6

  Query Match           100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 3
US-09-042-785A-12
; Sequence 12, Application US/09042785A
; Patent No. 6194151
;  GENERAL INFORMATION:
;    APPLICANT:  Busfield, Samantha J
;    TITLE OF INVENTION:  NOVEL MOLECULES OF THE TNF RECEPTOR SUPERFAMILY
;    TITLE OF INVENTION:  AND USES THEREFOR
;    NUMBER OF SEQUENCES:  31
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD, LLP
;      STREET:  28 State Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/042,785A
;      FILING DATE:  17-MAR-1998
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/938,896
;      FILING DATE:  26-SEP-1997
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  MEI-001CP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617)227-7400
;      TELEFAX:  (617)742-4214
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FRAGMENT TYPE:  internal
US-09-042-785A-12

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  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 4
US-08-795-445A-6
; Sequence 6, Application US/08795445A
; Patent No. 6284485
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,445A
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
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;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-445A-6

  Query Match             100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 5
US-08-795-447A-6
; Sequence 6, Application US/08795447A
; Patent No. 6284728
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, William J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  Osteoprotegerin
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  One Amgen Center Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91362-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,447A
;      FILING DATE:
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378D2
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-447A-6

  Query Match             100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 6
US-08-974-186-6
; Sequence 6, Application US/08974186
; Patent No. 6284740
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/974,186
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-974-186-6

  Query Match             100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 7
US-08-795-446B-6
; Sequence 6, Application US/08795446B
; Patent No. 6288032
```

```
;  GENERAL INFORMATION:
;    APPLICANT:  Boyle, Willaim J.
;    APPLICANT:  Lacey, David L.
;    APPLICANT:  Calzone, Frank J.
;    APPLICANT:  Chang, Ming-Shi
;    TITLE OF INVENTION:  OSTEOPROTEGERIN
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  1840 Dehavilland Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/795,446B
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/577,788
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-378
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-795-446B-6

  Query Match             100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 8
US-09-153-927-1
; Sequence 1, Application US/09153927A
; Patent No. 6297022
; GENERAL INFORMATION:
;  APPLICANT: McDonnell, Peter C.
;  APPLICANT: Young, Peter R.
;  APPLICANT: Zou, Jun
;  TITLE OF INVENTION: A Method of Identifying Agonists and
;  TITLE OF INVENTION: Antagonists for Tumor Necrosis Related Receptors TR1, TR3
;  TITLE OF INVENTION: and TR5
;  FILE REFERENCE: GH50031
;  CURRENT APPLICATION NUMBER: US/09/153,927A
;  CURRENT FILING DATE: 1998-09-16
;  EARLIER APPLICATION NUMBER: 60/061,334
;  EARLIER FILING DATE: 1997-10-08
;  NUMBER OF SEQ ID NOS: 11
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Human
US-09-153-927-1

  Query Match             100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 9
US-09-072-993C-1
; Sequence 1, Application US/09072993C
; Patent No. 6346388
; GENERAL INFORMATION:
;  APPLICANT: Michael R. Brigham-Burke
;  APPLICANT:  Peter R. Young
;  TITLE OF INVENTION: A METHOD OF IDENTIFYING AGONIST AND
;  TITLE OF INVENTION:  ANTAGONISTS FOR TUMOR NECROSIS RELATED RECEPTORS TR1 AND TR2
;  FILE REFERENCE: GH-50030
;  CURRENT APPLICATION NUMBER: US/09/072,993C
;  CURRENT FILING DATE:  1998-05-06
;  PRIOR APPLICATION NUMBER: 60/055,513
;  PRIOR FILING DATE: 1997-08-13
;  PRIOR APPLICATION NUMBER: 60/056,980
;  PRIOR FILING DATE: 1997-08-26
;  PRIOR APPLICATION NUMBER: 60/057,550
;  PRIOR FILING DATE: 1997-08-29
;  NUMBER OF SEQ ID NOS: 9
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: HOMO SAPIENS
US-09-072-993C-1

  Query Match             100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 10
US-08-706-945D-128
; Sequence 128, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
```

```
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378CIP
;  CURRENT APPLICATION NUMBER: US/08/706,945D
;  CURRENT FILING DATE:  1996-09-03
;  PRIOR APPLICATION NUMBER: 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 145
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 128
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-706-945D-128

  Query Match             100.0%;  Score 1046;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 11
US-08-577-788C-6
; Sequence 6, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378 Rev
;  CURRENT APPLICATION NUMBER: US/08/577,788C
;  CURRENT FILING DATE:  1995-12-22
;  NUMBER OF SEQ ID NOS: 58
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-577-788C-6

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  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 12
US-08-577-788C-56
; Sequence 56, Application US/08577788C
; Patent No. 6613544
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378 Rev
;  CURRENT APPLICATION NUMBER: US/08/577,788C
;  CURRENT FILING DATE:  1995-12-22
;  NUMBER OF SEQ ID NOS: 58
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 56
;   LENGTH: 401
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-577-788C-56

  Query Match             100.0%;  Score 1046;  DB 4;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 13
US-09-064-832-2
; Sequence 2, Application US/09064832
; Patent No. 6790823
;  GENERAL INFORMATION:
;    APPLICANT:  Simonet, Scott
;    APPLICANT:  Sarosi, Ildiko
;    TITLE OF INVENTION:  COMPOSITIONS AND METHODS FOR THE
;    TITLE OF INVENTION:  PREVENTION AND TREATMENT OF CARDIOVASCULAR DISEASES
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Amgen Inc.
;      STREET:  One Amgen Center Drive
;      CITY:  Thousand Oaks
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  91320-1789
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/064,832
;      FILING DATE:
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Winter, Robert B.
;      REFERENCE/DOCKET NUMBER:  A-525
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  401 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-064-832-2

  Query Match             100.0%;  Score 1046;  DB 4;  Length 401;
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  Best Local Similarity   100.0%;  Pred. No. 9.6e-91;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 14
US-09-632-277A-3
; Sequence 3, Application US/09632277A
; Patent No. 6599716
; GENERAL INFORMATION:
;  APPLICANT: Hsu, Hailing
;  TITLE OF INVENTION: NTR3 A No. 6599716el Member of the TNF-Receptor Supergene Family
;  FILE REFERENCE: 01017/35549A
;  CURRENT APPLICATION NUMBER: US/09/632,277A
;  CURRENT FILING DATE:  2000-08-03
;  PRIOR APPLICATION NUMBER: US 60/147,297
;  PRIOR FILING DATE: 1999-08-04
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
;   LENGTH: 161
;   TYPE: PRT
;   ORGANISM: Mus musculus
;   FEATURE:
;   OTHER INFORMATION: Mus musculus OPG
US-09-632-277A-3

  Query Match             90.3%;  Score 945;  DB 4;  Length 161;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-81;
  Matches  161;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          5 PKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSP 64
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 PKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECLYCSP 60

Qy         65 VCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKRC 124
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Db         61 VCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTVCKRC 120

Qy        125 PDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 165
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Db        121 PDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICS 161


RESULT 15
US-08-706-945D-142
; Sequence 142, Application US/08706945D
; Patent No. 6369027
; GENERAL INFORMATION:
;  APPLICANT: Boyle, William
;  APPLICANT:  Lacey, David
;  APPLICANT:  Calzone, Frank
;  APPLICANT:  Chang, Ming-Shi
;  TITLE OF INVENTION: Osteoprotegerin
;  FILE REFERENCE: A-378CIP
;  CURRENT APPLICATION NUMBER: US/08/706,945D
;  CURRENT FILING DATE:  1996-09-03
;  PRIOR APPLICATION NUMBER: 08/577,788
;  PRIOR FILING DATE: 1995-12-22
;  NUMBER OF SEQ ID NOS: 145
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 142
;   LENGTH: 364
;   TYPE: PRT
;   ORGANISM: Mus musculus
US-08-706-945D-142

  Query Match             90.2%;  Score 943;  DB 3;  Length 364;
  Best Local Similarity   91.1%;  Pred. No. 4.4e-81;
  Matches  164;  Conservative    0;  Mismatches    0;  Indels   16;  Gaps    1;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              |||||||||||||||||||||||||                ||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTN----------------DNICSGNSESTQKCGIDVTL 164


Search completed: November 14, 2005, 23:19:15
Job time : 15.4225 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 23:07:15 ; Search time 51.8835 Seconds
(without alignments)
1451.594 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_201
Perfect score: 1046
Sequence: 1 ETFPPKYLHYDEETSHQLLC.....DNICSGNSESTQKCGIDVTL 180

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867879 seqs, 418409474 residues

Total number of hits satisfying chosen parameters: 1867879

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
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22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1046	100.0	272	9	US-09-062-113-75	Sequence 75, Appl
2	1046	100.0	272	14	US-10-232-858-75	Sequence 75, Appl
3	1046	100.0	272	16	US-10-785-109-75	Sequence 75, Appl
4	1046	100.0	272	16	US-10-785-114-75	Sequence 75, Appl
5	1046	100.0	272	17	US-10-929-958-75	Sequence 75, Appl
6	1046	100.0	272	17	US-10-929-748-75	Sequence 75, Appl
7	1046	100.0	272	17	US-10-979-303-75	Sequence 75, Appl
8	1046	100.0	272	18	US-10-979-654-75	Sequence 75, Appl
9	1046	100.0	293	9	US-09-896-096A-18	Sequence 18, Appl
10	1046	100.0	293	9	US-09-894-924-18	Sequence 18, Appl
11	1046	100.0	293	15	US-10-456-819-18	Sequence 18, Appl
12	1046	100.0	293	16	US-10-688-132-18	Sequence 18, Appl
13	1046	100.0	293	16	US-10-871-907-18	Sequence 18, Appl
14	1046	100.0	321	9	US-09-062-113-80	Sequence 80, Appl
15	1046	100.0	321	14	US-10-232-858-80	Sequence 80, Appl
16	1046	100.0	321	16	US-10-785-109-80	Sequence 80, Appl
17	1046	100.0	321	16	US-10-785-114-80	Sequence 80, Appl
18	1046	100.0	321	17	US-10-929-958-80	Sequence 80, Appl
19	1046	100.0	321	17	US-10-929-748-80	Sequence 80, Appl
20	1046	100.0	321	17	US-10-979-303-80	Sequence 80, Appl
21	1046	100.0	321	18	US-10-979-654-80	Sequence 80, Appl
22	1046	100.0	327	9	US-09-062-113-72	Sequence 72, Appl
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24	1046	100.0	327	16	US-10-785-109-72	Sequence 72, Appl
25	1046	100.0	327	16	US-10-785-114-72	Sequence 72, Appl
26	1046	100.0	327	17	US-10-929-958-72	Sequence 72, Appl
27	1046	100.0	327	17	US-10-929-748-72	Sequence 72, Appl
28	1046	100.0	327	17	US-10-979-303-72	Sequence 72, Appl
29	1046	100.0	327	18	US-10-979-654-72	Sequence 72, Appl
30	1046	100.0	349	13	US-10-105-934-15	Sequence 15, Appl
31	1046	100.0	349	17	US-10-895-676-15	Sequence 15, Appl
32	1046	100.0	351	9	US-09-062-113-74	Sequence 74, Appl
33	1046	100.0	351	14	US-10-232-858-74	Sequence 74, Appl
34	1046	100.0	351	16	US-10-785-109-74	Sequence 74, Appl
35	1046	100.0	351	16	US-10-785-114-74	Sequence 74, Appl
36	1046	100.0	351	17	US-10-929-958-74	Sequence 74, Appl
37	1046	100.0	351	17	US-10-929-748-74	Sequence 74, Appl
38	1046	100.0	351	17	US-10-979-303-74	Sequence 74, Appl
39	1046	100.0	351	18	US-10-979-654-74	Sequence 74, Appl
40	1046	100.0	362	9	US-09-062-113-11	Sequence 11, Appl
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42	1046	100.0	362	16	US-10-785-109-11	Sequence 11, Appl
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44	1046	100.0	362	17	US-10-929-958-11	Sequence 11, Appl
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ALIGNMENTS

RESULT 1
US-09-062-113-75
; Sequence 75, Application US/09062113
; Patent No. US20020051969A1
; GENERAL INFORMATION:
; APPLICANT: GOTO, Masaaki
; APPLICANT: TSUDA, Eisuke
; APPLICANT: MOCHIZUKI, Shin'ichi
; APPLICANT: YANO, Kazuki
; APPLICANT: KOBAYASHI, Fumie
; APPLICANT: SHIMA, No. US20020051969A1uyuki
; APPLICANT: YASUDA, Hisataka
; APPLICANT: NAKAGAWA, No. US20020051969A1uaki
; APPLICANT: MORINAGA, Tomonori
; APPLICANT: UEDA, Masatsugu
; APPLICANT: HIGASHIO, Kanji
; TITLE OF INVENTION: No. US20020051969A1el Proteins and Methods for Producing
; TITLE OF INVENTION: the Proteins
; NUMBER OF SEQUENCES: 108
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Testa, Hurwitz & Thibeault
; STREET: 125 High St.
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/062,113
; FILING DATE: 17-APR-1998

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;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  JP 54977/1995
;      FILING DATE:  20-FEB-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  JP 207508/1995
;      FILING DATE:  21-JUL-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/JP96/00374
;      FILING DATE:  20-FEB-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/915,004
;      FILING DATE:  20-FEB-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MOORE, Ronda P.
;      REGISTRATION NUMBER:  44,244
;      REFERENCE/DOCKET NUMBER:  FJN-060DV
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 248-7000
;      TELEFAX:  (617) 248-7100
;  INFORMATION FOR SEQ ID NO:  75:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  272 amino acids
;      TYPE:  amino acid
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;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
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US-09-062-113-75

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  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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RESULT 2
US-10-232-858-75
; Sequence 75, Application US/10232858
; Publication No. US20030153048A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, No. US20030153048A1uyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, No. US20030153048A1uaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: No. US20030153048A1el Proteins and Methods for Producing the Prot
;  FILE REFERENCE: 16991.004
;  CURRENT APPLICATION NUMBER: US/10/232,858
;  CURRENT FILING DATE:  2002-09-03
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
;   LENGTH: 272
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-232-858-75

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US-10-785-109-75
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; Publication No. US20040142426A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, Nobuyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, Nobuaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
;  FILE REFERENCE: 16991.017
;  CURRENT APPLICATION NUMBER: US/10/785,109
;  CURRENT FILING DATE:  2004-02-25
;  PRIOR APPLICATION NUMBER: US 10/232,858
;  PRIOR FILING DATE: 2002-09-03
;  PRIOR APPLICATION NUMBER: US 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: JP 207508/1995
;  PRIOR FILING DATE: 1995-07-21
;  PRIOR APPLICATION NUMBER: JP 054977/1995
;  PRIOR FILING DATE: 1995-02-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
;   LENGTH: 272
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-785-109-75

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US-10-785-114-75
; Sequence 75, Application US/10785114
; Publication No. US20040143859A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, Nobuyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, Nobuaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
;  FILE REFERENCE: 16991.016
;  CURRENT APPLICATION NUMBER: US/10/785,114
;  CURRENT FILING DATE:  2004-02-25
;  PRIOR APPLICATION NUMBER: US 10/232,858
;  PRIOR FILING DATE: 2002-09-03
;  PRIOR APPLICATION NUMBER: US 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: JP 207508/1995
;  PRIOR FILING DATE: 1995-07-21
;  PRIOR APPLICATION NUMBER: JP 054977/1995
;  PRIOR FILING DATE: 1995-02-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
;   LENGTH: 272
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-785-114-75

  Query Match             100.0%;  Score 1046;  DB 16;  Length 272;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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RESULT 5
US-10-929-958-75
; Sequence 75, Application US/10929958
; Publication No. US20050014229A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, Nobuyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, Nobuaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
;  FILE REFERENCE: 16991.021
;  CURRENT APPLICATION NUMBER: US/10/929,958
;  CURRENT FILING DATE:  2004-08-31
;  PRIOR APPLICATION NUMBER: US 10/232,858
;  PRIOR FILING DATE: 2002-09-03
;  PRIOR APPLICATION NUMBER: US 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: JP 207508/1995
;  PRIOR FILING DATE: 1995-07-21
;  PRIOR APPLICATION NUMBER: JP 054977/1995
;  PRIOR FILING DATE: 1995-02-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
;   LENGTH: 272
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-929-958-75

  Query Match             100.0%;  Score 1046;  DB 17;  Length 272;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 6
US-10-929-748-75
; Sequence 75, Application US/10929748
; Publication No. US20050026837A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, Nobuyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, Nobuaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
;  FILE REFERENCE: 16991.018
;  CURRENT APPLICATION NUMBER: US/10/929,748
;  CURRENT FILING DATE:  2004-08-31
;  PRIOR APPLICATION NUMBER: US 10/232,858
;  PRIOR FILING DATE: 2002-09-03
;  PRIOR APPLICATION NUMBER: US 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
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;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: JP 207508/1995
;  PRIOR FILING DATE: 1995-07-21
;  PRIOR APPLICATION NUMBER: JP 054977/1995
;  PRIOR FILING DATE: 1995-02-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
;   LENGTH: 272
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-929-748-75

  Query Match             100.0%;  Score 1046;  DB 17;  Length 272;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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RESULT 7
US-10-979-303-75
; Sequence 75, Application US/10979303
; Publication No. US20050118682A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, Nobuyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, Nobuaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
;  FILE REFERENCE: 16991.027
;  CURRENT APPLICATION NUMBER: US/10/979,303
;  CURRENT FILING DATE:  2004-11-03
;  PRIOR APPLICATION NUMBER: US 10/232,858
;  PRIOR FILING DATE: 2002-09-03
;  PRIOR APPLICATION NUMBER: US 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: JP 207508/1995
;  PRIOR FILING DATE: 1995-07-21
;  PRIOR APPLICATION NUMBER: JP 054977/1995
;  PRIOR FILING DATE: 1995-02-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
;   LENGTH: 272
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-979-303-75

  Query Match             100.0%;  Score 1046;  DB 17;  Length 272;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 8
US-10-979-654-75
; Sequence 75, Application US/10979654
; Publication No. US20050124054A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, Nobuyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, Nobuaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: Novel Proteins and Methods for Producing the Proteins
;  FILE REFERENCE: 16991.026
;  CURRENT APPLICATION NUMBER: US/10/979,654
;  CURRENT FILING DATE:  2004-11-03
;  PRIOR APPLICATION NUMBER: US 10/232,858
;  PRIOR FILING DATE: 2002-09-03
;  PRIOR APPLICATION NUMBER: US 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: JP 207508/1995
;  PRIOR FILING DATE: 1995-07-21
;  PRIOR APPLICATION NUMBER: JP 054977/1995
;  PRIOR FILING DATE: 1995-02-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 75
;   LENGTH: 272
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-979-654-75

  Query Match             100.0%;  Score 1046;  DB 18;  Length 272;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 9
US-09-896-096A-18
; Sequence 18, Application US/09896096A
; Patent No. US20020061559A1
; GENERAL INFORMATION:
;  APPLICANT: ASHKENAZI, AVI J
```

```
;  APPLICANT:  BOTSTEIN, DAVID
;  APPLICANT:  DODGE, KELLY H.
;  APPLICANT:  GURNEY, AUSTIN L.
;  APPLICANT:  KIM, KYUNG JIN
;  APPLICANT:  LAWRENCE, DAVID A.
;  APPLICANT:  PITTI, ROBERT
;  APPLICANT:  ROY, MARGARET A
;  APPLICANT:  TUMAS, DANIEL B
;  APPLICANT:  WOOD, WILLIAM I.
;  TITLE OF INVENTION: DcR3 Polypeptide, A TNFR Homolog
;  FILE REFERENCE: P1134R2 REVISED
;  CURRENT APPLICATION NUMBER: US/09/896,096A
;  CURRENT FILING DATE:  2001-06-28
;  PRIOR APPLICATION NUMBER: US 09/157,289
;  PRIOR FILING DATE: 1998-09-18
;  PRIOR APPLICATION NUMBER: US 60/059,288
;  PRIOR FILING DATE: 1997-09-18
;  PRIOR APPLICATION NUMBER: US 60/094,640
;  PRIOR FILING DATE: 1998-07-30
;  NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
;   LENGTH: 293
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-896-096A-18

  Query Match             100.0%;  Score 1046;  DB 9;  Length 293;
  Best Local Similarity   100.0%;  Pred. No. 5e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 10
US-09-894-924-18
; Sequence 18, Application US/09894924
; Patent No. US20020065210A1
; GENERAL INFORMATION:
;  APPLICANT: ASHKENAZI, AVI J
;  APPLICANT:  BOTSTEIN, DAVID
;  APPLICANT:  DODGE, KELLY H.
;  APPLICANT:  GURNEY, AUSTIN L.
;  APPLICANT:  KIM, KYUNG JIN
;  APPLICANT:  LAWRENCE, DAVID A.
;  APPLICANT:  PITTI, ROBERT
;  APPLICANT:  ROY, MARGARET A
;  APPLICANT:  TUMAS, DANIEL B
;  APPLICANT:  WOOD, WILLIAM I.
;  TITLE OF INVENTION: DcR3 Polypeptide, A TNFR Homolog
;  FILE REFERENCE: P1134R2 REVISED
;  CURRENT APPLICATION NUMBER: US/09/894,924
;  CURRENT FILING DATE:  2001-06-28
;  PRIOR APPLICATION NUMBER: US 09/157,289
;  PRIOR FILING DATE: 1998-09-18
;  PRIOR APPLICATION NUMBER: US 60/059,288
;  PRIOR FILING DATE: 1997-09-18
;  PRIOR APPLICATION NUMBER: US 60/094,640
;  PRIOR FILING DATE: 1998-07-30
;  NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
;   LENGTH: 293
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-894-924-18

  Query Match             100.0%;  Score 1046;  DB 9;  Length 293;
  Best Local Similarity   100.0%;  Pred. No. 5e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 11
US-10-456-819-18
; Sequence 18, Application US/10456819
; Publication No. US20040014176A1
; GENERAL INFORMATION:
;  APPLICANT: ASHKENAZI, AVI J
;  APPLICANT:  BOTSTEIN, DAVID
;  APPLICANT:  DODGE, KELLY H.
;  APPLICANT:  GURNEY, AUSTIN L.
;  APPLICANT:  KIM, KYUNG JIN
;  APPLICANT:  LAWRENCE, DAVID A.
;  APPLICANT:  PITTI, ROBERT
;  APPLICANT:  ROY, MARGARET A
;  APPLICANT:  TUMAS, DANIEL B
;  APPLICANT:  WOOD, WILLIAM I.
;  TITLE OF INVENTION: DcR3 Polypeptide, A TNFR Homolog
;  FILE REFERENCE: P1134R2 REVISED
;  CURRENT APPLICATION NUMBER: US/10/456,819
;  CURRENT FILING DATE:  2003-06-06
;  PRIOR APPLICATION NUMBER: US/09/894,924
;  PRIOR FILING DATE: 2001-06-28
;  PRIOR APPLICATION NUMBER: US 09/157,289
;  PRIOR FILING DATE: 1998-09-18
;  PRIOR APPLICATION NUMBER: US 60/059,288
;  PRIOR FILING DATE: 1997-09-18
;  PRIOR APPLICATION NUMBER: US 60/094,640
;  PRIOR FILING DATE: 1998-07-30
;  NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
;   LENGTH: 293
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-456-819-18

  Query Match             100.0%;  Score 1046;  DB 15;  Length 293;
  Best Local Similarity   100.0%;  Pred. No. 5e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 12
US-10-688-132-18
; Sequence 18, Application US/10688132
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; Publication No. US20040175791A1
; GENERAL INFORMATION:
;  APPLICANT: ASHKENAZI, AVI J
;  APPLICANT:  BOTSTEIN, DAVID
;  APPLICANT:  DODGE, KELLY H.
;  APPLICANT:  GURNEY, AUSTIN L.
;  APPLICANT:  KIM, KYUNG JIN
;  APPLICANT:  LAWRENCE, DAVID A.
;  APPLICANT:  PITTI, ROBERT
;  APPLICANT:  ROY, MARGARET A
;  APPLICANT:  TUMAS, DANIEL B
;  APPLICANT:  WOOD, WILLIAM I.
;  TITLE OF INVENTION: DcR3 Polypeptide, A TNFR Homolog
;  FILE REFERENCE: P1134R2 REVISED
;  CURRENT APPLICATION NUMBER: US/10/688,132
;  CURRENT FILING DATE:  2003-10-17
;  PRIOR APPLICATION NUMBER: US/09/894,924
;  PRIOR FILING DATE: 2001-06-28
;  PRIOR APPLICATION NUMBER: US 09/157,289
;  PRIOR FILING DATE: 1998-09-18
;  PRIOR APPLICATION NUMBER: US 60/059,288
;  PRIOR FILING DATE: 1997-09-18
;  PRIOR APPLICATION NUMBER: US 60/094,640
;  PRIOR FILING DATE: 1998-07-30
;  NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
;   LENGTH: 293
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-688-132-18

  Query Match             100.0%;  Score 1046;  DB 16;  Length 293;
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  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
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Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 13
US-10-871-907-18
; Sequence 18, Application US/10871907
; Publication No. US20040231011A1
; GENERAL INFORMATION:
;  APPLICANT: ASHKENAZI, AVI J
;  APPLICANT:  BOTSTEIN, DAVID
;  APPLICANT:  DODGE, KELLY H.
;  APPLICANT:  GURNEY, AUSTIN L.
;  APPLICANT:  KIM, KYUNG JIN
;  APPLICANT:  LAWRENCE, DAVID A.
;  APPLICANT:  PITTI, ROBERT
;  APPLICANT:  ROY, MARGARET A
;  APPLICANT:  TUMAS, DANIEL B
;  APPLICANT:  WOOD, WILLIAM I.
;  TITLE OF INVENTION: DcR3 Polypeptide, A TNFR Homolog
;  FILE REFERENCE: P1134R2 REVISED
;  CURRENT APPLICATION NUMBER: US/10/871,907
;  CURRENT FILING DATE:  2004-06-17
;  PRIOR APPLICATION NUMBER: US/09/157,289
;  PRIOR FILING DATE: 1998-09-18
;  PRIOR APPLICATION NUMBER: US 60/059,288
;  PRIOR FILING DATE: 1997-09-18
;  PRIOR APPLICATION NUMBER: US 60/094,640
;  PRIOR FILING DATE: 1998-07-30
;  NUMBER OF SEQ ID NOS: 18
; SEQ ID NO 18
;   LENGTH: 293
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-871-907-18

  Query Match             100.0%;  Score 1046;  DB 16;  Length 293;
  Best Local Similarity   100.0%;  Pred. No. 5e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
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Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 14
US-09-062-113-80
; Sequence 80, Application US/09062113
; Patent No. US20020051969A1
;  GENERAL INFORMATION:
;    APPLICANT:  GOTO, Masaaki
;    APPLICANT:  TSUDA, Eisuke
;    APPLICANT:  MOCHIZUKI, Shin'ichi
;    APPLICANT:  YANO, Kazuki
;    APPLICANT:  KOBAYASHI, Fumie
;    APPLICANT:  SHIMA, No. US20020051969A1uyuki
;    APPLICANT:  YASUDA, Hisataka
;    APPLICANT:  NAKAGAWA, No. US20020051969A1uaki
;    APPLICANT:  MORINAGA, Tomonori
;    APPLICANT:  UEDA, Masatsugu
;    APPLICANT:  HIGASHIO, Kanji
;    TITLE OF INVENTION:  No. US20020051969A1el Proteins and Methods for Producing
;    TITLE OF INVENTION:  the Proteins
;    NUMBER OF SEQUENCES:  108
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Testa, Hurwitz & Thibeault
;      STREET:  125 High St.
;      CITY:  Boston
;      STATE:  MA
;      COUNTRY:  USA
;      ZIP:  02110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/062,113
;      FILING DATE:  17-APR-1998
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  JP 54977/1995
;      FILING DATE:  20-FEB-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  JP 207508/1995
;      FILING DATE:  21-JUL-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/JP96/00374
;      FILING DATE:  20-FEB-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/915,004
;      FILING DATE:  20-FEB-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MOORE, Ronda P.
```

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;      REGISTRATION NUMBER:  44,244
;      REFERENCE/DOCKET NUMBER:  FJN-060DV
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 248-7000
;      TELEFAX:  (617) 248-7100
;  INFORMATION FOR SEQ ID NO:  80:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  321 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  -21..0
;    FEATURE:
;      NAME/KEY:  Protein
;      LOCATION:  1..300
;      OTHER INFORMATION:  /note= "OCIF-CSph"
US-09-062-113-80

  Query Match             100.0%;  Score 1046;  DB 9;  Length 321;
  Best Local Similarity   100.0%;  Pred. No. 5.5e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


RESULT 15
US-10-232-858-80
; Sequence 80, Application US/10232858
; Publication No. US20030153048A1
; GENERAL INFORMATION:
;  APPLICANT: GOTO, Masaaki
;  APPLICANT:  TSUDA, Eisuke
;  APPLICANT:  MOCHIZUKI, Shin'ichi
;  APPLICANT:  YANO, Kazuki
;  APPLICANT:  KOBAYASHI, Fumie
;  APPLICANT:  SHIMA, No. US20030153048A1uyuki
;  APPLICANT:  YASUDA, Hisataka
;  APPLICANT:  NAKAGAWA, No. US20030153048A1uaki
;  APPLICANT:  MORINAGA, Tomonori
;  APPLICANT:  UEDA, Masatsugu
;  APPLICANT:  HIGASHIO, Kanji
;  TITLE OF INVENTION: No. US20030153048A1el Proteins and Methods for Producing the Prot
;  FILE REFERENCE: 16991.004
;  CURRENT APPLICATION NUMBER: US/10/232,858
;  CURRENT FILING DATE:  2002-09-03
;  PRIOR APPLICATION NUMBER: PCT/JP96/00374
;  PRIOR FILING DATE: 1996-02-20
;  PRIOR APPLICATION NUMBER: 08/915,004
;  PRIOR FILING DATE: 1997-08-20
;  NUMBER OF SEQ ID NOS: 108
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 80
;   LENGTH: 321
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-232-858-80

  Query Match             100.0%;  Score 1046;  DB 14;  Length 321;
  Best Local Similarity   100.0%;  Pred. No. 5.5e-85;
  Matches  180;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201


Search completed: November 14, 2005, 23:23:58
Job time : 52.8835 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 14, 2005, 22:25:59 ; Search time 116.254 Seconds
(without alignments)
1264.207 Million cell updates/sec

Title: US-10-762-159-125_COPY_22_401
Perfect score: 2085
Sequence: 1 ETFPPKYLHYDEETSHQLLC.....QKLFLEMIGNQVQSVKISCL 380

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2085	100.0	380	4	AAB66988	Aab66988 Murine OP
2	2085	100.0	380	8	ADM28827	Adm28827 Human ost
3	2085	100.0	381	8	ADM28870	Adm28870 Human OPG
4	2085	100.0	382	8	ADM28869	Adm28869 Human OPG
5	2085	100.0	385	8	ADM28876	Adm28876 Human OPG
6	2085	100.0	391	8	ADM28877	Adm28877 Human OPG
7	2085	100.0	400	6	ABU08820	Abu08820 Human ost
8	2085	100.0	401	2	AAW38345	Aaw38345 Human ost
9	2085	100.0	401	3	AAY43400	Aay43400 Osteoprot
10	2085	100.0	401	4	AAB66976	Aab66976 Human OPG
11	2085	100.0	401	5	ABG71823	Abg71823 Wild type
12	2085	100.0	401	6	ABP55109	Abp55109 Human ost
13	2085	100.0	401	6	AAE34363	Aae34363 Human ost
14	2085	100.0	401	7	ADD01627	Add01627 Human ost
15	2085	100.0	401	8	ADM28813	Adm28813 Human ost
16	2085	100.0	537	6	AAO19639	Aao19639 Human mil
17	2080	99.8	401	5	ABG73895	Abg73895 Human OPG
18	2080	99.8	401	5	ABG73894	Abg73894 Human OPG
19	2079	99.7	380	2	AAR99924	Aar99924 Mature os
20	2079	99.7	380	6	AAO19638	Aao19638 Human mil
21	2079	99.7	380	7	ADF15245	Adf15245 Human alb
22	2079	99.7	380	8	ADM28860	Adm28860 Human ost
23	2079	99.7	391	2	AAW53238	Aaw53238 Human OCI
24	2079	99.7	401	2	AAR99925	Aar99925 Full leng
25	2079	99.7	401	2	AAW53239	Aaw53239 Human OCI
26	2079	99.7	401	2	AAY05742	Aay05742 Tumour ne
27	2079	99.7	401	2	AAW95030	Aaw95030 Tumour ne
28	2079	99.7	401	2	AAW83926	Aaw83926 Human FTH
29	2079	99.7	401	3	AAY88622	Aay88622 Osteoclas
30	2079	99.7	401	3	AAB18715	Aab18715 A human t
31	2079	99.7	401	4	AAB60570	Aab60570 Human TNF
32	2079	99.7	401	5	ABG73893	Abg73893 Human OPG
33	2079	99.7	401	6	AAE36245	Aae36245 Human TRA
34	2079	99.7	401	6	AAO31135	Aao31135 Human TRA
35	2079	99.7	401	6	ABP70997	Abp70997 Human ost
36	2079	99.7	401	7	ADD01625	Add01625 Human ost
37	2079	99.7	401	7	ADD37427	Add37427 Human ost
38	2079	99.7	401	7	ADF16158	Adf16158 Human alb
39	2079	99.7	401	7	ADF16153	Adf16153 Human alb
40	2079	99.7	401	7	ADF16151	Adf16151 Human alb
41	2079	99.7	401	7	ADF15231	Adf15231 Human alb
42	2079	99.7	401	7	ADF16152	Adf16152 Human alb
43	2079	99.7	401	7	ADF16154	Adf16154 Human alb
44	2079	99.7	401	7	ADF16155	Adf16155 Human alb
45	2079	99.7	401	7	ADF16156	Adf16156 Human alb

ALIGNMENTS

RESULT 1
AAB66988
ID AAB66988 standard; protein; 380 AA.
XX
AC AAB66988;
XX
DT 19-APR-2001 (first entry)
XX
DE Murine OPG cysteine-rich domain.
XX
KW Bone loss; osteoprotegerin; OPG; rheumatoid arthritis; hyperalgesia;
KW multiple sclerosis; osteoporosis; osteomyelitis; asthma; inflammation;
KW systemic lupus erythematosus; graft-versus-host disease; septic shock;
KW acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;
KW coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
KW endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
KW ischaemia; Parkinson's disease.
XX
OS Mus sp.
XX
PN WO200103719-A2.
XX
PD 18-JAN-2001.
XX
PF 07-JUL-2000; 2000WO-US018667.
XX
PR 09-JUL-1999; 99US-00350670.
PR 09-DEC-1999; 99US-00457647.
XX
PA (AMGE-) AMGEN INC.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M, Senaldi G;
XX
DR WPI; 2001-103031/11.
XX
PT Treating conditions leading to bone loss such as rheumatoid arthritis,
PT multiple sclerosis and asthma, comprises administering an osteoprotegerin
PT protein in conjunction with e.g. inhibitors of interleukin and tumor
PT necrosis factor alpha.
XX
PS Disclosure; Fig 12; 316pp; English.
XX
CC The present invention relates to a method for treating conditions leading
CC to bone loss. The method comprises administering a purified and isolated
CC osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
CC in conjunction with other substances such as tumour necrosis factor-alpha
CC (TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors, ICE
CC modulators, fibroblast growth factor (FGF)1-10 modulators and/or platelet

```
CC   activating factor (PAF) antagonists. The method is useful for treating
CC   conditions leading to bone loss such as rheumatoid arthritis, multiple
CC   sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
CC   useful for treating inflammation, systemic lupus erythematosus (SLE) and
CC   graft-versus-host disease (GvHD). Other diseases that can be treated
CC   include acute pancreatitis, Alzheimer's disease, anorexia,
CC   atherosclerosis, coronary conditions (e.g. myocardial infarction),
CC   cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
CC   inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
CC   psoriasis and septic shock
XX
SQ   Sequence 380 AA;

  Query Match             100.0%;  Score 2085;  DB 4;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 5.4e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        361 QKLFLEMIGNQVQSVKISCL 380


RESULT 2
ADM28827
ID   ADM28827 standard; protein; 380 AA.
XX
AC   ADM28827;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human osteoprotegerin cysteine-rich domains 1-4 plus C-terminus #1.
XX
KW   Mouse; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic.
XX
OS   Mus sp.
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;   99US-00405032.
XX
PR   22-DEC-1995;   95US-00577788.
PR   03-SEP-1996;   96US-00706945.
PR   20-DEC-1996;   96US-00771777.
PR   12-AUG-1998;   98US-00132985.
XX
PA   (BOYL/) BOYLE W J.
PA   (LACE/) LACEY D L.
PA   (CALZ/) CALZONE F J.
PA   (CHAN/) CHANG M.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
XX
DR   WPI; 2004-041572/04.
XX
PT   Novel osteoprotegerin useful for treating conditions resulting in bone
PT   loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT   loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS   Disclosure; SEQ ID NO 139; 141pp; English.
XX
CC   The invention relates to a purified and isolated polypeptide having
CC   osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC   having amino terminus at residue 22, and 1-216 amino acids are deleted
CC   from carboxy terminus of human OPG polypeptide. Also included are an
CC   isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC   vector comprising OPG NA, a host cell transformed or transfected with the
CC   vector, a transgenic mammal comprising the cell, producing OPG, a
CC   polypeptide comprising an amino acid sequence of at least about 164 amino
CC   acids comprising four cysteine-rich domains characteristic of the
CC   cysteine rich domains of tumour necrosis factor receptor extracellular
CC   regions (and an activity of increasing bone density), an antibody (Ab) or
CC   its fragment which specifically binds to OPG, a composition comprising
CC   OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC   and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC   Ab is useful for detecting the presence of OPG in a biological sample
CC   which involves incubating the sample with Ab under conditions that allow
CC   binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC   assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC   useful for regulating the levels of OPG in an animal (human). The nucleic
CC   acid promotes an increasing in tissue level of OPG. OPG is useful for
CC   treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC   disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC   osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC   osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC   method further involves administering a substance chosen from bone
CC   morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC   inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC   parathyroid hormone related protein and their analogues, E series of
CC   prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC   useful for treating osteoporosis such as primary osteoporosis, endocrine
CC   osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC   hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC   , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC   osteoporosis due to immobilisation of extremities, hypercalcaemia
CC   resulting from solid tumours and haematologic malignancies (multiple
CC   myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC   hypercalcaemia associated with hyperthyroidism and renal function
CC   disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC   death. The present sequences is an OPG protein (or fragment).
XX
SQ   Sequence 380 AA;

  Query Match             100.0%;  Score 2085;  DB 8;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 5.4e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db        61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120

Qy       121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180

Qy       181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240

Qy       241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300

Qy       301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360

Qy       361 QKLFLEMIGNQVQSVKISCL 380
             ||||||||||||||||||||
Db       361 QKLFLEMIGNQVQSVKISCL 380
```

RESULT 3
ADM28870
ID ADM28870 standard; protein; 381 AA.
XX
AC ADM28870;
XX
DT 20-MAY-2004 (first entry)
XX
DE Human OPG truncation mutant, OPG met[22-401].
XX
KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW Riley-day syndrome; immobilisation of extremity; tumour;
KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW osteoprotegerin; transgenic; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN US2003207827-A1.
XX
PD 06-NOV-2003.
XX
PF 24-SEP-1999; 99US-00405032.
XX
PR 22-DEC-1995; 95US-00577788.
PR 03-SEP-1996; 96US-00706945.
PR 20-DEC-1996; 96US-00771777.
PR 12-AUG-1998; 98US-00132985.
XX
PA (BOYL/) BOYLE W J.
PA (LACE/) LACEY D L.
PA (CALZ/) CALZONE F J.
PA (CHAN/) CHANG M.
XX
PI Boyle WJ, Lacey DL, Calzone FJ, Chang M;
XX
DR WPI; 2004-041572/04.
XX
PT Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS Claim 37; Page; 141pp; English.
XX
CC The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC vector, a transgenic mammal comprising the cell, producing OPG, a
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample
CC which involves incubating the sample with Ab under conditions that allow
CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG truncation/deletion or
CC substitution mutant protein (or fragment).
XX
SQ Sequence 381 AA;

```
  Query Match             100.0%;  Score 2085;  DB 8;  Length 381;
  Best Local Similarity   100.0%;  Pred. No. 5.4e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         2 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 61

Qy        61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        62 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 121

Qy       121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       122 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 181

Qy       181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       182 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 241

Qy       241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       242 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 301

Qy       301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       302 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 361

Qy       361 QKLFLEMIGNQVQSVKISCL 380
             ||||||||||||||||||||
Db       362 QKLFLEMIGNQVQSVKISCL 381
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```
RESULT 4
ADM28869
ID   ADM28869 standard; protein; 382 AA.
XX
AC   ADM28869;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human OPG truncation mutant, OPG met-lys[22-401].
XX
KW   Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;   99US-00405032.
XX
PR   22-DEC-1995;   95US-00577788.
PR   03-SEP-1996;   96US-00706945.
PR   20-DEC-1996;   96US-00771777.
PR   12-AUG-1998;   98US-00132985.
XX
PA   (BOYL/) BOYLE W J.
PA   (LACE/) LACEY D L.
PA   (CALZ/) CALZONE F J.
PA   (CHAN/) CHANG M.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
XX
DR   WPI; 2004-041572/04.
XX
PT   Novel osteoprotegerin useful for treating conditions resulting in bone
PT   loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT   loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS   Claim 37; Page; 141pp; English.
XX
CC   The invention relates to a purified and isolated polypeptide having
CC   osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC   having amino terminus at residue 22, and 1-216 amino acids are deleted
CC   from carboxy terminus of human OPG polypeptide. Also included are an
CC   isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC   vector comprising OPG NA, a host cell transformed or transfected with the
CC   vector, a transgenic mammal comprising the cell, producing OPG, a
CC   polypeptide comprising an amino acid sequence of at least about 164 amino
CC   acids comprising four cysteine-rich domains characteristic of the
CC   cysteine rich domains of tumour necrosis factor receptor extracellular
CC   regions (and an activity of increasing bone density), an antibody (Ab) or
CC   its fragment which specifically binds to OPG, a composition comprising
CC   OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC   and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC   Ab is useful for detecting the presence of OPG in a biological sample
CC   which involves incubating the sample with Ab under conditions that allow
CC   binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC   assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC   useful for regulating the levels of OPG in an animal (human). The nucleic
CC   acid promotes an increasing in tissue level of OPG. OPG is useful for
CC   treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC   disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC   osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC   osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC   method further involves administering a substance chosen from bone
CC   morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC   inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC   parathyroid hormone related protein and their analogues, E series of
CC   prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC   useful for treating osteoporosis such as primary osteoporosis, endocrine
CC   osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC   hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC   , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC   osteoporosis due to immobilisation of extremities, hypercalcaemia
CC   resulting from solid tumours and haematologic malignancies (multiple
CC   myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC   hypercalcaemia associated with hyperthyroidism and renal function
CC   disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC   death. The present sequences is an OPG truncation/deletion or
CC   substitution mutant protein (or fragment).
XX
SQ   Sequence 382 AA;

  Query Match             100.0%;  Score 2085;  DB 8;  Length 382;
  Best Local Similarity   100.0%;  Pred. No. 5.5e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          3 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 62

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         63 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 122

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        123 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 182

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        183 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 242

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        243 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 302

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        303 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 362

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        363 QKLFLEMIGNQVQSVKISCL 382


RESULT 5
ADM28876
ID   ADM28876 standard; protein; 385 AA.
XX
AC   ADM28876;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human OPG truncation mutant, OPG met-met-(lys)3[22-401].
XX
KW   Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic; mutant; mutein.
```

```
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;   99US-00405032.
XX
PR   22-DEC-1995;   95US-00577788.
PR   03-SEP-1996;   96US-00706945.
PR   20-DEC-1996;   96US-00771777.
PR   12-AUG-1998;   98US-00132985.
XX
PA   (BOYL/) BOYLE W J.
PA   (LACE/) LACEY D L.
PA   (CALZ/) CALZONE F J.
PA   (CHAN/) CHANG M.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
XX
DR   WPI; 2004-041572/04.
XX
PT   Novel osteoprotegerin useful for treating conditions resulting in bone
PT   loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT   loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS   Claim 37; Page; 141pp; English.
XX
CC   The invention relates to a purified and isolated polypeptide having
CC   osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC   having amino terminus at residue 22, and 1-216 amino acids are deleted
CC   from carboxy terminus of human OPG polypeptide. Also included are an
CC   isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC   vector comprising OPG NA, a host cell transformed or transfected with the
CC   vector, a transgenic mammal comprising the cell, producing OPG, a
CC   polypeptide comprising an amino acid sequence of at least about 164 amino
CC   acids comprising four cysteine-rich domains characteristic of the
CC   cysteine rich domains of tumour necrosis factor receptor extracellular
CC   regions (and an activity of increasing bone density), an antibody (Ab) or
CC   its fragment which specifically binds to OPG, a composition comprising
CC   OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC   and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC   Ab is useful for detecting the presence of OPG in a biological sample
CC   which involves incubating the sample with Ab under conditions that allow
CC   binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC   assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC   useful for regulating the levels of OPG in an animal (human). The nucleic
CC   acid promotes an increasing in tissue level of OPG. OPG is useful for
CC   treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC   disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC   osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC   osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC   method further involves administering a substance chosen from bone
CC   morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC   inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC   parathyroid hormone related protein and their analogues, E series of
CC   prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC   useful for treating osteoporosis such as primary osteoporosis, endocrine
CC   osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC   hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC   , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC   osteoporosis due to immobilisation of extremities, hypercalcaemia
CC   resulting from solid tumours and haematologic malignancies (multiple
CC   myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC   hypercalcaemia associated with hyperthyroidism and renal function
CC   disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC   death. The present sequences is an OPG truncation/deletion or
CC   substitution mutant protein (or fragment).
XX
SQ   Sequence 385 AA;
```

```
  Query Match             100.0%;  Score 2085;  DB 8;  Length 385;
  Best Local Similarity   100.0%;  Pred. No. 5.5e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          6 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 65

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         66 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 125

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        126 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 185

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        186 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 245

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        246 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 305

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        306 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 365

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        366 QKLFLEMIGNQVQSVKISCL 385
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```
RESULT 6
ADM28877
ID   ADM28877 standard; protein; 391 AA.
XX
AC   ADM28877;
XX
DT   20-MAY-2004  (first entry)
XX
DE   Human OPG truncation mutant, OPG met-met-arg-gly-ser-(His)6[22-401].
XX
KW   Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW   Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW   steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW   acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW   Riley-day syndrome; immobilisation of extremity; tumour;
KW   haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW   renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW   osteoprotegerin; transgenic; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;   99US-00405032.
XX
PR   22-DEC-1995;   95US-00577788.
PR   03-SEP-1996;   96US-00706945.
PR   20-DEC-1996;   96US-00771777.
PR   12-AUG-1998;   98US-00132985.
XX
PA   (BOYL/) BOYLE W J.
PA   (LACE/) LACEY D L.
PA   (CALZ/) CALZONE F J.
PA   (CHAN/) CHANG M.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
```

XX
DR WPI; 2004-041572/04.
XX
PT Novel osteoprotegerin useful for treating conditions resulting in bone
PT loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS Claim 37; Page; 141pp; English.
XX
CC The invention relates to a purified and isolated polypeptide having
CC osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC having amino terminus at residue 22, and 1-216 amino acids are deleted
CC from carboxy terminus of human OPG polypeptide. Also included are an
CC isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC vector comprising OPG NA, a host cell transformed or transfected with the
CC vector, a transgenic mammal comprising the cell, producing OPG, a
CC polypeptide comprising an amino acid sequence of at least about 164 amino
CC acids comprising four cysteine-rich domains characteristic of the
CC cysteine rich domains of tumour necrosis factor receptor extracellular
CC regions (and an activity of increasing bone density), an antibody (Ab) or
CC its fragment which specifically binds to OPG, a composition comprising
CC OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC Ab is useful for detecting the presence of OPG in a biological sample
CC which involves incubating the sample with Ab under conditions that allow
CC binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC useful for regulating the levels of OPG in an animal (human). The nucleic
CC acid promotes an increasing in tissue level of OPG. OPG is useful for
CC treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC method further involves administering a substance chosen from bone
CC morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC parathyroid hormone related protein and their analogues, E series of
CC prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC useful for treating osteoporosis such as primary osteoporosis, endocrine
CC osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC osteoporosis due to immobilisation of extremities, hypercalcaemia
CC resulting from solid tumours and haematologic malignancies (multiple
CC myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC hypercalcaemia associated with hyperthyroidism and renal function
CC disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC death. The present sequences is an OPG truncation/deletion or
CC substitution mutant protein (or fragment).
XX
SQ Sequence 391 AA;

Query Match 100.0%; Score 2085; DB 8; Length 391;
Best Local Similarity 100.0%; Pred. No. 5.6e-153;
Matches 380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
Db 12 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 71

Qy 61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
Db 72 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 131

Qy 121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
Db 132 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 191

Qy 181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
Db 192 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 251

Qy 241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
Db 252 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 311

Qy 301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
Db 312 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 371

Qy 361 QKLFLEMIGNQVQSVKISCL 380
Db 372 QKLFLEMIGNQVQSVKISCL 391

RESULT 7
ABU08820
ID ABU08820 standard; protein; 400 AA.
XX
AC ABU08820;
XX
DT 13-AUG-2003 (first entry)
XX
DE Human osteoprotegerin protein.
XX
KW Human; osteoprotegerin; endothelial morphogenesis; capillary formation.
XX
OS Homo sapiens.
XX
PN US2003022834-A1.
XX
PD 30-JAN-2003.
XX
PF 09-MAY-2002; 2002US-00142658.
XX
PR 10-MAY-2001; 2001US-0290230P.
XX
PA (MALY/) MALYANKAR U M.
PA (SCAT/) SCATENA M.
PA (GIAC/) GIACHELLI C M.
XX
PI Malyankar UM, Scatena M, Giachelli CM;
XX
DR WPI; 2003-479494/45.
DR N-PSDB; ABX93089.
XX
PT Promoting endothelial morphogenesis for promoting formation of blood
PT vessels, e.g. capillaries, in vivo in an area of damaged mammalian heart
PT muscle, involves providing osteoprotegerin to one or more endothelial
PT cells.
XX
PS Claim 3; Page 9-10; 15pp; English.
XX
CC This invention relates to a novel method for promoting endothelial
CC morphogenesis, comprises providing osteoprotegerin to one or more
CC endothelial cells. The invention also discloses an implantable medical
CC device comprising a device body and a layer attached to a surface of the
CC device body. The layer comprises a molecule such as osteoprotegerin or a
CC nucleic acid molecule encoding osteoprotegerin, where the device is
CC adapted to be completely or partially implanted into an animal body. The
CC method of the invention is useful for promoting in vivo endothelial
CC morphogenesis, such as the formation of capillaries which are formed in
CC tissue (e.g. heart tissue) adjacent to an implanted medical device or the
CC formation of an endothelial lining in a blood vessel, an artificial or
CC natural blood vessel. The method is also useful for promoting endothelial
CC morphogenesis in vitro. The implanted medical device is useful for
CC promoting endothelial morphogenesis in any situation, e.g. promotion of
CC blood vessel growth in and around damaged heart muscle. The implanted
CC medical device promotes the growth of blood vessels in the surrounding
CC tissue, thereby reducing or preventing the formation of a collagenous
CC capsule around the implanted medical device and foreign body reaction.
CC The method is useful for promoting formation of blood vessels in vivo
CC such as in an area of mammalian heart muscle that has been damaged, such
CC as by reduced blood flow resulting from heart attack. The present
CC sequence represents the human Osteoprotegerin protein which is used in
CC the method of the invention to promote endothelial morphogenesis

```
XX
SQ   Sequence 400 AA;

  Query Match             100.0%;  Score 2085;  DB 6;  Length 400;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         21 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 80

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         81 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 140

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        141 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 200

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        201 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 260

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        261 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 320

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        321 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 380

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        381 QKLFLEMIGNQVQSVKISCL 400


RESULT 8
AAW38345
ID   AAW38345 standard; protein; 401 AA.
XX
AC   AAW38345;
XX
DT   20-APR-1998  (first entry)
XX
DE   Human osteoprotegerin.
XX
KW   Osteoprotegerin; antibody; diagnosis; affinity purification;
KW   recombinant production; transgenic animal; treatment; prevention;
KW   antisense oligonucleotide; probe; detection; screening; human;
KW   bone disease; osteoporosis; Paget's disease; hypercalcaemia;
KW   hyperparathyroidism; rheumatoid arthritis; osteomyelitis;
KW   osteolytic metastasis; periodontal bone loss; bone necrosis; osteopaenia.
XX
OS   Homo sapiens.
XX
PN   DE19654610-A1.
XX
PD   26-JUN-1997.
XX
PF   20-DEC-1996;   96DE-01054610.
XX
PR   22-DEC-1995;   95US-00577788.
PR   03-SEP-1996;   96US-00706945.
XX
PA   (AMGE-) AMGEN INC.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
XX
DR   WPI; 1997-334271/31.
DR   N-PSDB; AAT96063.
XX
PT   Nucleic acid encoding osteoprotegerin - useful for treatment of diseases
PT   involving excessive bone loss, e.g. osteoporosis.
XX
PS   Claim 23; Page 109-111; 182pp; German.
XX
CC   The present sequence is human osteoprotegerin (OPG). Anti-OPG antibodies
CC   can be used in OPG diagnostic assays, and as affinity purification
CC   materials. The OPG cDNA can be used to express recombinant OPG and to
CC   generate transgenic animals. It can also be used to regulate the level of
CC   OPG in mammals, specifically to increase OPG levels, however the use of
CC   antisense sequences is also contemplated. Fragments of the cDNA can be
CC   used as probes to detect OPG expressing cells and tissue, and to screen
CC   cDNA libraries for related sequences. OPG can be used to treat or prevent
CC   bone diseases, specifically excessive bone loss, e.g. osteoporosis,
CC   Paget's disease, hypercalcaemia, hyperparathyroidism, rheumatoid
CC   arthritis, osteomyelitis, osteolytic metastases, periodontal bone loss,
CC   bone necrosis and osteopaenia
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2085;  DB 2;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 9
AAY43400
ID   AAY43400 standard; protein; 401 AA.
XX
AC   AAY43400;
XX
DT   28-JAN-2000  (first entry)
XX
DE   Osteoprotegrin protein sequence.
XX
KW   Osteoprotegrin; OPG; human; cardiovascular disease; occlusion;
KW   calcification; blood vessel; atherosclerosis; medial calcific sclerosis;
KW   Monckeberg's arteriosclerosis; therapy.
XX
OS   Homo sapiens.
XX
PN   WO9953942-A1.
XX
PD   28-OCT-1999.
XX
PF   21-APR-1999;   99WO-US008793.
XX
```

```
PR   23-APR-1998;   98US-00064832.
XX
PA   (AMGE-) AMGEN INC.
XX
PI   Simonet S,  Sarosi I;
XX
DR   WPI; 2000-013182/01.
DR   N-PSDB; AAZ37254.
XX
PT   Treating and preventing cardiovascular diseases, especially
PT   atherosclerosis and Monckeberg's arteriosclerosis.
XX
PS   Claim 9; Page 37-39; 43pp; English.
XX
CC   This sequence represents the human osteoprotegrin (OPG). The invention
CC   relates to a method of treating or preventing cardiovascular disease by
CC   administering OPG. The method can be used to treat and prevent
CC   cardiovascular diseases associated with occlusion and calcification of
CC   blood vessels, especially atherosclerosis or Monckeberg's
CC   arteriosclerosis, i.e. medial calcific sclerosis. Using OPG to treat or
CC   prevent cardiovascular diseases provides an alternative to invasive
CC   treatments. OPG can be used as a single therapeutic for prevention and
CC   treatment of both osteoporosis and cardiovascular diseases
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2085;  DB 3;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 10
AAB66976
ID   AAB66976 standard; protein; 401 AA.
XX
AC   AAB66976;
XX
DT   19-APR-2001  (first entry)
XX
DE   Human OPG.
XX
KW   Bone loss; osteoprotegerin; OPG; rheumatoid arthritis; hyperalgesia;
KW   multiple sclerosis; osteoporosis; osteomyelitis; asthma; inflammation;
KW   systemic lupus erythematosus; graft-versus-host disease; septic shock;
KW   acute pancreatitis; Alzheimer's disease; anorexia; atherosclerosis; pain;
KW   coronary condition; myocardial infarction; cancer; diabetes; psoriasis;
KW   endometriosis; fever; glomerulonephritis; inflammatory bowel disease;
KW   ischaemia; Parkinson's disease.
XX
OS   Homo sapiens.
XX
PN   WO200103719-A2.
XX
PD   18-JAN-2001.
XX
PF   07-JUL-2000; 2000WO-US018667.
XX
PR   09-JUL-1999;   99US-00350670.
PR   09-DEC-1999;   99US-00457647.
XX
PA   (AMGE-) AMGEN INC.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M,  Senaldi G;
XX
DR   WPI; 2001-103031/11.
DR   N-PSDB; AAF57838.
XX
PT   Treating conditions leading to bone loss such as rheumatoid arthritis,
PT   multiple sclerosis and asthma, comprises administering an osteoprotegerin
PT   protein in conjunction with e.g. inhibitors of interleukin and tumor
PT   necrosis factor alpha.
XX
PS   Example 5; Fig 9; 316pp; English.
XX
CC   The present invention relates to a method for treating conditions leading
CC   to bone loss. The method comprises administering a purified and isolated
CC   osteoprotegerin (OPG) protein (AAF57836-AAF57838 and AAB66974-AAB66976)
CC   in conjunction with other substances such as tumour necrosis factor-alpha
CC   (TNF-alpha) inhibitors, interleukin (IL)-6, -8 and -18 inhibitors, ICE
CC   modulators, fibroblast growth factor (FGF)1-10 modulators and/or platelet
CC   activating factor (PAF) antagonists. The method is useful for treating
CC   conditions leading to bone loss such as rheumatoid arthritis, multiple
CC   sclerosis, osteoporosis, osteomyelitis and asthma. The method is also
CC   useful for treating inflammation, systemic lupus erythematosus (SLE) and
CC   graft-versus-host disease (GvHD). Other diseases that can be treated
CC   include acute pancreatitis, Alzheimer's disease, anorexia,
CC   atherosclerosis, coronary conditions (e.g. myocardial infarction),
CC   cancer, diabetes, endometriosis, fever, glomerulonephritis, hyperalgesia,
CC   inflammatory bowel disease, ischaemia, pain, Parkinson's disease,
CC   psoriasis and septic shock
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2085;  DB 4;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
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                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401
```

RESULT 11
ABG71823
ID ABG71823 standard; protein; 401 AA.
XX
AC ABG71823;
XX
DT 14-APR-2003 (first entry)
XX
DE Wild type human OPG (osteoprotegerin) protein.
XX
KW RANKL; human receptor activator of NFkappaB; osteoprotegerin; OPG;
KW RANK ligand; osteoclastogenesis; osteoclast inhibitor; gene therapy;
KW osteoporosis; bone disease; human.
XX
OS Homo sapiens.
XX
PN WO200264782-A2.
XX
PD 22-AUG-2002.
XX
PF 08-FEB-2002; 2002WO-DK000090.
XX
PR 09-FEB-2001; 2001DK-00000214.
PR 09-FEB-2001; 2001US-0267843P.
PR 23-MAR-2001; 2001DK-00000498.
PR 23-MAR-2001; 2001US-0278320P.
XX
PA (MAXY-) MAXYGEN HOLDINGS LTD.
XX
PI Haaning JM, Halkier T;
XX
DR WPI; 2002-691592/74.
XX
PT Novel human receptor activator of NFkappaB (hRANK) or human
PT osteoprotegerin (hOPG) variant polypeptides which bind to RANK ligand
PT (RANKL) with equivalent binding affinity as hRANK or hOPG, useful for
PT treating osteoporosis.
XX
PS Example 6; Fig 2; 129pp; English.
XX
CC This invention relates to a novel mutant proteins having an amino acid
CC sequence that is different from and is at least about 70% identical to
CC the amino acid sequence of human receptor activator of NFkappaB (hRANK)
CC or human osteoprotegerin (hOPG), and which has a binding affinity to RANK
CC ligand (RANKL) that is at least as high as the binding affinity of hRANK
CC or hOPG to RANKL, as determined by functional competition assay. The
CC protein of the invention may have osteopathic activity and may act as a
CC RANKL-mediated osteoclastogenesis or RANKL-mediated osteoclast activity
CC inhibitor. The nucleotide sequence shown in the invention may be used in
CC gene therapy. The protein of the invention or fusion proteins comprising
CC this protein are useful as a pharmaceutical, and in the preparation of a
CC medicament for treating or preventing osteoporosis, or other bone
CC diseases or diseases associated with binding of RANKL to the RANK
CC receptor. A host cell containing a vector expressing the protein is
CC useful for producing a polypeptide having binding affinity to RANKL,
CC where the polypeptide comprises at least one N- or O-glycosylation site
CC and the host cell is a eukaryotic host cell capable of in vivo
CC glycosylation, and/or the polypeptide is subjected to conjugation to a
CC non-polypeptide moiety in vitro. The protein of the invention has
CC increased functional in vivo half-life and/or serum half-life compared to
CC hRANK or hOPG and has an improved binding affinity to RANKL compared to
CC the binding affinity of hRANK or hOPG to RANKL, as determined by a
CC functional competition assay. The present sequence represents the human
CC wild type OPG (osteoprotegerin) protein used to generate the mutant
CC proteins invention

XX
SQ Sequence 401 AA;

```
  Query Match            100.0%;  Score 2085;  DB 5;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401
```

RESULT 12
ABP55109
ID ABP55109 standard; protein; 401 AA.
XX
AC ABP55109;
XX
DT 05-FEB-2003 (first entry)
XX
DE Human osteoprotegerin receptor.
XX
KW Osteoprotegerin; receptor; OPG; human; autoimmune disease;
KW rheumatoid arthritis; diabetes; osteoarthritis; psoriasis;
KW inflammatory bowel disease; transplant rejection; allergy;
KW immunosuppressive; antirheumatic; antiarthritic; antidiabetic;
KW antipsoriatic; immunosuppressive; antiallergic; antiinflammatory;
KW osteopathic; antiulcer; monocyte.
XX
OS Homo sapiens.
XX
PN WO200276507-A2.
XX
PD 03-OCT-2002.
XX
PF 06-FEB-2002; 2002WO-US001238.
XX
PR 23-MAR-2001; 2001US-0278215P.
XX
PA (GETH) GENENTECH INC.
XX
PI Grewal I;
XX
DR WPI; 2003-058352/05.
DR N-PSDB; ABV75843.
XX
PT Stimulating mammalian monocytes by exposing to an OPG ligand polypeptide,
PT useful for treating immune related disorders such as autoimmune disease,
PT rheumatoid arthritis, diabetes, osteoarthritis, psoriasis, and allergy.

```
XX
PS   Disclosure; Fig 2B; 111pp; English.
XX
CC   The present sequence is the protein sequence of human osteoprotegerin
CC   (OPG) receptor. The invention provides methods of using OPG ligand (OPGL)
CC   to activate monocytes to secrete chemokines or cytokines by exposing a
CC   mammalian cell (in cell culture or in a mammal) to OPGL. Also provided
CC   are methods of using OPGL to treat conditions or diseases in mammals
CC   associated with, or resulting from lack of, or decreased, chemokine or
CC   cytokine secretion by monocytes. The invention also provides OPGL agonist
CC   and antagonist molecules to modulate immune activity. These may include
CC   antibodies to the OPG or RANK receptors. An antagonist comprising an anti
CC   -OPGL antibody, an anti-OPG receptor antibody, an anti-RANK receptor
CC   antibody, an OPG receptor immunoadhesin or a RANK receptor immunoadhesin
CC   is used in a claimed method of treating an immune-related condition,
CC   especially an autoimmune disease, rheumatoid arthritis, insulin dependent
CC   diabetes, osteoarthritis, inflammatory bowel disease (especially
CC   ulcerative colitis or Crohn's disease), psoriasis, transplant rejection
CC   or allergy
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2085;  DB 6;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


RESULT 13
AAE34363
ID   AAE34363 standard; protein; 401 AA.
XX
AC   AAE34363;
XX
DT   14-MAY-2003  (first entry)
XX
DE   Human osteoprotegerin (OPG) protein.
XX
KW   Human; acute septic arthritis; osteomalacia; hyperparathyroidism;
KW   Cushing's syndrome; receptor activator of NF-kappa B; cancer; scurvy;
KW   bone formation; rickets; Langerhan's cell histiocytosis; gene therapy;
KW   monoostotic fibrous dysplasia; radiation therapy; spinal cord injury;
KW   RANK; Gaucher's disease; polyostotic fibrous dysplasia; OPG;
KW   osteoprotegerin.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .401
FT                   /note= "Mature OPG protein"
XX
PN   WO200292016-A2.
XX
PD   21-NOV-2002.
XX
PF   17-MAY-2002; 2002WO-US016002.
XX
PR   17-MAY-2001; 2001US-0291919P.
XX
PA   (IMMV ) IMMUNEX CORP.
XX
PI   Dougall WC,  Anderson DM;
XX
DR   WPI; 2003-129220/12.
DR   N-PSDB; AAD52597.
XX
PT   Treating patients having e.g. acute septic arthritis, osteomalacia,
PT   hyperparathyroidism, Cushing's syndrome or spinal cord injury, comprises
PT   administering a receptor activator of NF-kappa B antagonist to increase
PT   bone formation.
XX
PS   Claim 1; Page 47-49; 52pp; English.
XX
CC   The invention relates to a method of treating a patient having e.g. acute
CC   septic arthritis, osteomalacia, hyperparathyroidism, Cushing's syndrome
CC   or spinal cord injury. The method involves administering a receptor
CC   activator of NF-kappa B (RANK) antagonist to stimulate an increase in the
CC   rate for formation of new bone. RANK antagonist is capable of inhibiting
CC   the ability of RANK to induce NF-kappa B. The method is useful for
CC   stimulating bone formation, or for treating patients having acute septic
CC   arthritis, osteomalacia (including rickets and scurvy),
CC   hyperparathyroidism, Cushing's syndrome, monoostotic fibrous dysplasia,
CC   polyostotic fibrous dysplasia, Gaucher's disease, Langerhan's cell
CC   histiocytosis, spinal cord injury, patients requiring periodontal
CC   reconstruction, or patients who have completed a course or radiation
CC   therapy for cancer. The method is also useful for treating a patient who
CC   is a prosthetic joint recipient, a bone graft recipient, or a ligament
CC   graft recipient. The invention is useful in gene therapy. The present
CC   sequence is human osteoprotegerin (OPG). OPG serves as human RANK
CC   antagonist
XX
SQ   Sequence 401 AA;

  Query Match             100.0%;  Score 2085;  DB 6;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321
```

```
Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401
```

RESULT 14
ADD01627
ID ADD01627 standard; protein; 401 AA.
XX
AC ADD01627;
XX
DT 01-JAN-2004 (first entry)
XX
DE Human osteoprotegerin amino acid sequence SEQ ID NO:4.
XX
KW fibrotic disease; cysteine-rich domain; osteoprotegerin; scleroderma;
KW antiinflammatory; gene therapy; human.
XX
OS Homo sapiens.
XX
PN WO2003084560-A2.
XX
PD 16-OCT-2003.
XX
PF 26-MAR-2003; 2003WO-EP050080.
XX
PR 10-APR-2002; 2002EP-00100364.
XX
PA (ISTF) ARS APPLIED RES SYSTEMS HOLDING NV.
XX
PI Power C, Plater-Zyberk C;
XX
DR WPI; 2003-804248/75.
DR N-PSDB; ADD01626.
XX
PT Use of a substance for the manufacture of a medicament for treating or
PT preventing fibrotic disease.
XX
PS Claim 1; SEQ ID NO 4; 68pp; English.
XX
CC The present invention describes a substance which is useful for the
CC manufacture of a medicament for treating or preventing fibrotic disease.
CC The substance comprises: (a) a polypeptide comprising a fully defined
CC sequence having 401 amino acids (see ADD01625 and ADD01627), or its amino
CC acids 22-401 or 22-194; (b) a polypeptide comprising 1, 2, 3 or 4
CC cysteine-rich domains of osteoprotegerin; (c) a mutein of (a)-(b) that is
CC encoded by a DNA sequence that hybridises to the complement of the DNA
CC sequence encoding (a)-(b) under moderately or highly stringent conditions
CC ; where the amino acid sequence has at least 40, 50, 60, 70, 80 or 90%
CC identity with (a)-(b); and where any changes in the amino acid sequence
CC are conservative amino acid substitutions to the amino acid sequences in
CC (a)-(b); or (d) a salt or an isoform, fused protein, functional
CC derivative, active fraction or circularly permutated derivative of (a)-
CC (c). Also described: (1) a polypeptide comprising the 401-amino acid
CC sequence and one, two, three or four cysteine-rich domains of
CC osteoprotegerin; and (2) a method for treating or preventing a fibrotic
CC disease, particularly scleroderma. The substance has antiinflammatory
CC activity, and can be used in gene therapy. A vector or cell comprising
CC the nucleic acid molecule encoding a polypeptide of the invention can be
CC used for inducing or enhancing the endogenous production of the
CC polypeptide in a cell for the preparation of a medicament for treating or
CC preventing a fibrotic disease, in particular scleroderma. The present
CC sequence represents a human osteoprotegerin amino acid sequence which is
CC used in the exemplification of the present invention.
XX
SQ Sequence 401 AA;

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  Query Match             100.0%;  Score 2085;  DB 7;  Length 401;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
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Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
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Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401
```

RESULT 15
ADM28813
ID ADM28813 standard; protein; 401 AA.
XX
AC ADM28813;
XX
DT 20-MAY-2004 (first entry)
XX
DE Human osteoprotegerin, OPG.
XX
KW Human; OPG; bone resorption; excessive bone loss; osteoporosis;
KW Paget's disease of bone; hypercalcaemia; hyperparathyroidism;
KW steroid-induced osteopaenia; rheumatoid arthritis; osteomyelitis;
KW osteolytic metastasis; periodontal bone loss; Cushing's syndrome;
KW acromegaly; osteogenesis imperfecta; homocystinuria; Menke's syndrome;
KW Riley-day syndrome; immobilisation of extremity; tumour;
KW haematologic malignancy; multiple myeloma; lymphoma; leukaemia;
KW renal function disorder; osteopaenia; osteonecrosis; bone cell death;
KW osteoprotegerin; transgenic.
XX
OS Homo sapiens.
XX
```
FH  Key             Location/Qualifiers
FT  Peptide         1. .21
FT                  /note= "Signal peptide"
FT  Protein         22. .401
FT                  /note= "Mature OPG, claimed in claim 24"
FT  Region          22. .201
FT                  /note= "Claimed in claim 32"
FT  Region          22. .194
FT                  /note= "Claimed in claim 32"
FT  Region          22. .189
FT                  /note= "Claimed in claim 32"
FT  Region          22. .185
FT                  /note= "Claimed in claim 32"
FT  Region          27. .401
FT                  /note= "Claimed in claim 35"
FT  Region          27. .194
FT                  /note= "Claimed in claim 35"
FT  Region          27. .189
FT                  /note= "Claimed in claim 35"
FT  Region          27. .185
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FT                   /note= "Claimed in claim 35"
FT   Region          32. .401
FT                   /note= "Claimed in claim 25"
XX
PN   US2003207827-A1.
XX
PD   06-NOV-2003.
XX
PF   24-SEP-1999;    99US-00405032.
XX
PR   22-DEC-1995;    95US-00577788.
PR   03-SEP-1996;    96US-00706945.
PR   20-DEC-1996;    96US-00771777.
PR   12-AUG-1998;    98US-00132985.
XX
PA   (BOYL/) BOYLE W J.
PA   (LACE/) LACEY D L.
PA   (CALZ/) CALZONE F J.
PA   (CHAN/) CHANG M.
XX
PI   Boyle WJ,  Lacey DL,  Calzone FJ,  Chang M;
XX
DR   WPI; 2004-041572/04.
DR   N-PSDB; ADM28812.
XX
PT   Novel osteoprotegerin useful for treating conditions resulting in bone
PT   loss such as osteoporosis, hypercalcemia, Paget's disease of bone, bone
PT   loss caused by rheumatoid arthritis or osteomyelitis.
XX
PS   Claim 23; SEQ ID NO 125; 141pp; English.
XX
CC   The invention relates to a purified and isolated polypeptide having
CC   osteoprotegerin (OPG), an OPG polypeptide from rat, human and mouse, or
CC   having amino terminus at residue 22, and 1-216 amino acids are deleted
CC   from carboxy terminus of human OPG polypeptide. Also included are an
CC   isolated nucleic acid encoding an OPG polypeptide (OPG NA), an expression
CC   vector comprising OPG NA, a host cell transformed or transfected with the
CC   vector, a transgenic mammal comprising the cell, producing OPG, a
CC   polypeptide comprising an amino acid sequence of at least about 164 amino
CC   acids comprising four cysteine-rich domains characteristic of the
CC   cysteine rich domains of tumour necrosis factor receptor extracellular
CC   regions (and an activity of increasing bone density), an antibody (Ab) or
CC   its fragment which specifically binds to OPG, a composition comprising
CC   OPG (in a carrier, adjuvant, solubiliser, stabiliser and/or anti-oxidant)
CC   and an osteoprotegerin multimer consisting of osteoprotegerin monomers.
CC   Ab is useful for detecting the presence of OPG in a biological sample
CC   which involves incubating the sample with Ab under conditions that allow
CC   binding of ab to OPG and detecting the bound Ab. OPG is useful for
CC   assessing the ability of a candidate substance to bind to OPG. OPG NA is
CC   useful for regulating the levels of OPG in an animal (human). The nucleic
CC   acid promotes an increasing in tissue level of OPG. OPG is useful for
CC   treating a bone disorder e.g. excessive bone loss, osteoporosis, Paget's
CC   disease of bone, hypercalcaemia, hyperparathyroidism, steroid-induced
CC   osteopaenia, bone loss due to rheumatoid arthritis, bone loss due to
CC   osteomyelitis, osteolytic metastasis, and periodontal bone loss. The
CC   method further involves administering a substance chosen from bone
CC   morphogenic protein BMP-1 through BMP-12, TGF-beta family members, IL-1
CC   inhibitor, TNFalpha inhibitors, parathyroid hormone and their analogues,
CC   parathyroid hormone related protein and their analogues, E series of
CC   prostaglandins, bisphosphonates, and bone-enhancing minerals. OPG is
CC   useful for treating osteoporosis such as primary osteoporosis, endocrine
CC   osteoporosis (hyperthyroidism, Cushing's syndrome, and acromegaly),
CC   hereditary and congenital forms of osteoporosis (osteogenesis imperfecta
CC   , homocystinuria, Menke's syndrome, and Riley-day syndrome) and
CC   osteoporosis due to immobilisation of extremities, hypercalcaemia
CC   resulting from solid tumours and haematologic malignancies (multiple
CC   myeloma, lymphoma and leukaemia), idiopathic hypercalcaemia, and
CC   hypercalcaemia associated with hyperthyroidism and renal function
CC   disorders, osteopaenia following surgery and osteonecrosis or bone cell
CC   death. The present sequences is an OPG protein (or fragment).
XX
SQ   Sequence 401 AA;
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  Query Match           100.0%;  Score 2085;  DB 8;  Length 401;
  Best Local Similarity  100.0%;  Pred. No. 5.8e-153;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYYTDSWHTSDECL 81

Qy         61 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 YCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCLKHRSCPPGFGVVQAGTPERNTV 141

Qy        121 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 CKRCPDGFFSNETSSKAPCRKHTNCSVFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL 201

Qy        181 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 CEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKRQHSSQEQTFQLLKLWKHQN 261

Qy        241 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 KAQDIVKKIIQDIDLCENSVQRHIGHANLTFEQLRSLMESLPGKKVGAEDIEKTIKACKP 321

Qy        301 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        322 SDQILKLLSLWRIKNGDQDTLKGLMHALKHSKTYHFPKTVTQSLKKTIRFLHSFTMYKLY 381

Qy        361 QKLFLEMIGNQVQSVKISCL 380
              ||||||||||||||||||||
Db        382 QKLFLEMIGNQVQSVKISCL 401


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